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1917

MANUAL

OF THE

Elementary Course of Study

FOR THE

Common Schools of Wisconsin

SIXTEENTH EDITION

Rewritten

C. P. CARY

State Superintendent

NOTE—This manual is designed not only for the present, but also for the future use of the common schools. The teachers of these schools, and the clerks of the district boards, who may receive copies, should preserve them.

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DEMOCRAT PRINTING COMPANY, STATE PRINTER

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INTRODUCTION

The Manual has in this edition been completely rewritten. The outlines have all been prepared by members of the department except the Music which was prepared by Professor Dykema of the University, and the Writing by Mr. Book of Milwaukee. The responsibility for the Manual as a whole was placed upon Mr. Larson and Mr. Thomson of the state department. The former prepared the outlines in Arithmetic, History, and Civil Government, and the latter the outlines in Reading, Spelling, Physiology and Hygiene, and Geography. Mr. Goddard prepared the outlines in Nature Study and Agriculture, Miss Conley in Domestic Science, Mr. Dorrans in Manual Training, and Miss Bush in Drawing. Miss Bronsky and Miss Reynolds coöperated with Mr. Larson in the preparation of the outline in Language. Mr. Thomson coöperated with Mr. Book in the preparation of the outline in Writing.

It has seemed best to the superintendent to discuss many pedagogical questions and to make many suggestions to teachers in connection with the Manual. This adds greatly to its bulk, and from that point of view is objectionable; but the value of having a brief pedagogical treatise in immediate connection with the subject matter has seemed highly desirable. The effort has been made to make it an indispensable help to the teachers in rural schools.

Criticisms and suggestions in respect to the Manual will be welcome. All constructive suggestions will be helpful in future revisions.

C. P. Cary

State Superintendent.

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GENERAL SUGGESTIONS

The numerous tasks facing the rural-school teacher from day to day, make it difficult if not impossible for her to become a master of all the details of her daily work. Attention is called here to some of the larger things which she may do with reasonable success, and which, if mastered, will go a long way toward eliminating the smaller difficulties.

1. Distinguish between the memoriter and the rational studies. Rural-school teachers waste much time by their failure to distinguish between drill studies and rational studies. Drill studies are branches that aim to secure as a result definite mechanical execution or instant and accurate response as in spelling or the multiplication table. Such branches need little discussion. Practice is the road to success. The cardinal drill studies are spelling, writing, and the parts of arithmetic which have to do with skill in computation. Constant repetition under right conditions is the sure means by which good spellers, good writers and rapid calculators are developed. Teachers should make up their minds to this and drill for results.

On the other hand much time is wasted and the mental powers deadened because repetition is demanded in branches where reason should rule. This fault is illustrated in the teaching of History, Reading and Geography, especially in the upper grades: Memoriter repetition of the text in history is of little value. The student should be held to a rational statement of the substance of the lesson and should be obliged to prove his understanding of it so far as possible.

The teacher should classify the branches to be taught into the memoriter and the rational. She should likewise discriminate in each branch between the mechanical parts and the rational parts. The rational parts should be discussed pro and con. The mechanical parts should receive a sufficient amount of drill to insure accuracy and rapidity.

2. Teach the pupils how to study. The teacher should investigate the pupil's methods of study, that is to say, should find what they *do* when they study. To do this, she should

observe the results given back in recitation; she should ask questions in class that will reveal not merely what they have learned, but how they have learned. She should supplement the knowledge thus gained by observing their methods of work at their seats.

Along with this process the teacher should teach pupils how to study to better advantage; this she should do consciously and persistently. She should make pupils conscious of the way questions, outlines, notes, etc., help them to learn and to think. She should show them how to read, how and when to ask questions of themselves as they read. She should show them how she would study the lesson, or she may at times study it with them with the purpose in mind of helping them to help themselves in the lessons that follow. Following this she should make them aware that she is testing their power in this direction, testing them to discover for herself how much they have gained in self help from her help.

Drills and reviews, in class, upon the fundamental facts, rules and processes of a study raise the pupils' ideals of attainment and should stimulate them to drill and review by themselves.

In the rational phases of any study, questions asked by the teacher in class, which call for causes or effects, reasons or relations and which compel pupils to think out in terms of their own experiences or back to what has gone before in the book, should be brought to the consciousness of the children in a way to get them into the habit of thinking in a similar manner for themselves as they study.

Merely to question pupils in order to test them and to mark down the result, merely to help them when they fail and then to help them again and again engenders dependence. Such work does not develop in them initiative or the power of self help unless it is carefully planned to *help them help themselves,* and unless pupils are conscious that the assistance given is given for that purpose. Simply to question for the reasons and relations may not teach pupils to think for themselves; rather it may develop a habit of thinking *only when stimulated to think.* The teacher must stimulate pupils to ask themselves and then to answer such questions, and must show them how such questions arise out of the very nature of the study.

3. Make careful assignments of lessons, and make the recitation a vigorous and thorough exercise. Growth in the power to study depends much upon assignments. Occasionally in all studies carefully prepared assignments in much detail should be made in order to show pupils how to plan their work for

themselves. As a rule, however, the assignment need not be elaborate or long drawn out, but it should be explicit and discriminating and adapted to the length of the study period, and to the ability of the pupils. It should be so explicit that no pupil can truthfully say, "I did not know what we were to do." It should be discriminating so that pupils may use their time to the best advantage in mastering the essentials of the lesson.

To repeat, the three tests of every assignment are:

1. Is it explicit?
2. Is it discriminating?
3. Is it adapted to the student's time for preparation and his present ability and needs?

That there is a distressing lack of intelligent study and recitation in a large proportion of our rural schools is the one uniform report that is made by competent inspectors. There is a lack of thought, lack of understanding or comprehension, lack of grasp of meaning of the lesson "learned" and "recited."

It has been stated by inspectors that it is rare to hear in rural schools such questions and directions as the following: "What does this mean?" "Why?" "Give an example." "Explain." "Did you ever see anything like this you have just read about?" Without the discriminating and appropriate use of such questions, the pupils are not led to relate the facts contained in their lessons, or to grasp principles, and the result is not knowledge or power, but the deadening of all school interest and the atrophy of all native faculties of the mind. The child grows only through his own self activity. Neither the question nor the teacher's manner should imply the answer. Every pupil in the class should give careful attention to all that is said during the recitation.

4. Reduce the number of daily recitations to the minimum. It is difficult to give suggestions that will apply in all cases. The teacher must study the situation and proceed in the manner that she thinks will best apply to her school.

Geography classes may often be combined to advantage. Two small classes in written arithmetic may be called at the same time even when the work is widely separated. The teacher can give one section work at the board while she questions the other section.

Often spelling classes may be combined. It will of course suggest itself to the teacher to have all pupils work together in such subjects as writing, drawing, nature study and singing.

The more advanced pupils in crowded schools need not recite every day of the week in every study they are pursuing. Note

the suggestions on classifications and program elsewhere given in this manual.

5. See to the heating and ventilation. About two-thirds of the rural schools of Wisconsin have been equipped with a system of ventilation. This is a great credit to the people and the school boards of the state and *the teachers should now do their part by operating these plants in such a way that they will give the maximum amount of service.*

After the room has been warmed the foul air outlet and the fresh air intake should be kept open, otherwise there will be no ventilation. When these openings are closed, the same air is used over and over again, the stove simply causing a circulation of the air.

The stove, the pipe and the chimney should be kept clean in order that the draft may be good. Sometimes the failure to keep the room warm is due to neglect of this kind. The ashes should not be allowed to accumulate as this results in the burning out of the grate. (Do not throw the ashes around the trees. Wood ashes are valuable as a fertilizer.)

The teacher should learn to regulate the stove. Opening a slide *below the fire* always *causes a draft* and *makes the fire burn.* Opening a slide *above the fire,* either in the stove door or in the stove pipe, *checks the fire.* The fire can also be checked by a damper in the stove pipe.

If coal is the fuel used, wood fire should be well started before coal is put into the stove, otherwise it takes a long time to warm the room.

Sometimes the failure to warm the room is due to the construction of the building itself.

If the walls are not tight, if the windows are loose, or if there are openings under the doors, it will be impossible to keep the heat well regulated. Often such rooms have cold floors. Sometimes there are openings in the foundation through which the wind blows. In all such cases the board or the electors of the district should take action to have the building repaired.

When nothing better can be done the teacher must ventilate by means of windows and doors. In such cases the utmost care should be exercised in order to prevent direct drafts from striking the children. Windows should always be opened on the side *opposite* that from which the wind blows and should not in cold weather or when the children are perspiring from exercise, ever be opened on both sides at once. Probably the safest and most practical way to ventilate with windows is to place a board from four to six inches wide under the bottom of the

window. This will prevent any direct draft and will allow the air to pass up between the sashes and circulate through the room. A tested thermometer should be provided for every schoolroom and put in such a place that it will record the temperature of the air where the pupils sit. The temperature should be kept at from 68 to 70 degrees. The temperature and ventilation of the room are matters that should never be neglected by the teacher.

When the day's work is done and the pupils have departed, it is well to open doors and windows so that the room may be filled with fresh air for the next day. This ought to be done even if the room is supplied with a ventilating system.

By using a sweeping compound or an oil broom the dust can be kept down to a great extent during the sweeping. If these two things are done the air in the room will be in excellent condition for use the following morning.

The air in a schoolroom is usually too dry. This can be remedied somewhat by having a pan of water on the stove. Let the area of the surface from which evaporation can take place be as large as possible.

6. Outbuildings. There are still some outbuildings that are not in proper condition. This is a serious matter and should be attended to at once. The law requiring the board to erect separate outbuildings for the sexes and to keep them clean and in repair is mandatory upon all school boards, whether the district maintains a rural school of the first class or second class. In order that this matter may be properly understood the law is given here in full:

School boards to erect outbuildings. Section 435a of the Statutes. It shall be the duty of each school district board to provide at least two suitable and convenient outhouses or water-closets for each of the schoolhouses under its control. Said outhouses or water-closets shall be entirely separated each from the other and shall have separate means of access. The boys' outhouse shall be provided with suitable urinals. Said outhouses and said water-closets if detached from the schoolhouse, shall be placed at least thirty feet apart and separated by a substantial close fence not less than seven feet in height, and where placed on opposite sides of the school grounds shall be suitably screened from view. The board of education shall have said outhouses and water-closets kept in a clean and wholesome condition. If the electors of the district or town shall at the annual meeting fail to vote a tax of sufficient amount to enable the board to comply with the provisions of this section, it shall be the duty of the district board or the town board of school directors, prior to the third Monday of the November following, to determine the sum necessary to be raised to carry out the provisions of this section, and the clerk or secretary shall forthwith certify to the town clerk the amount so fixed, who shall assess this amount as

school district taxes are assessed, and such amount shall be assessed, levied and collected at the same time and in the same manner as other taxes for school purposes.

The close board fence is not necessary when the outbuildings are reasonably far apart and properly screened.

It is not enough that the outbuildings be put in good condition; they must be *kept* in good condition. The teacher should inspect the buildings daily. The teacher in the school takes the place of the parent in the home, and this fact demands that the physical and moral welfare, as well as the intellectual development, should receive the teacher's attention. The doors of the outbuildings should be kept in good condition and closed every night (locked if necessary). A shovel should be a part of the equipment of every school so that a path may be made to the building in the winter time. This shovel should not be left outside after using but kept in the woodshed.

In case the teacher is unable to keep the children from misusing the outbuildings, she should, if necessary, get the assistance of the board. Defacing the walls of the outbuilding or any other property is an act of lawlessness. The following statute is given here in order that it may become better known:

Obscene books, literature, papers and pictures. Section 4590 of the Statutes. Any person who shall, in a public place, or on any fence or wall, or other surface, contiguous to the public street or highway, or on the floor or ceiling, or on the inner or outer wall, closet, room, passage, hall, or any part of any hotel, inn, or tavern, courthouse, church, school, station house, depot for freight or passengers, capitol or other buildings devoted or open to other or like public uses, or on the walls of any outbuildings, or other structure pertaining thereto, make or cause to be made any obscene drawing or picture or obscene or indecent writing, or print, liable to be seen by others passing, or coming near the same, such person so offending, shall, in every such case, be guilty of a misdemeanor, and, on conviction thereof, shall be punished by imprisonment in the county jail not to exceed one year, or by fine not exceeding five hundred dollars.

7. Lighting, seating, decoration. Most school buildings are poorly lighted. To determine whether there is sufficient window space or not, the teacher may calculate the number of square feet of floor surface by multiplying the length and breadth of the room together, then find the total area of window surface in square feet and divide the former by the latter. If the quotient is *five* or less there is enough window surface, but if the quotient should prove to be seven or more there is not enough window surface. Teachers are often careless and allow the windows to be covered by window-curtains in part, at least, when such cover-

ing is not needed for the purpose of shutting out the direct rays of the sun. Pupils should never be allowed to face the windows while studying.

A mistake is often made in arranging the seats, the common method being to place the largest seat in the back of the room, then the next smaller and so on down to the smallest size. Such an arrangement makes it necessary for many pupils to be seated upon a seat that is relatively too high for the desk in front. Pupils are thus required to bend forward over their work to a degree that is a menace to health. The vital organs are compressed unduly and the shoulders stooped. A much better way is to arrange the largest seats in the outside rows, or rows next to the walls. Then the smaller seats in the next row and so on toward the middle of the room. As a rule the desks should be so placed that a line dropped from the front edge will strike from two to three inches inside the front edge of the seat.

Much more attention should be given than usually is to the matter of decoration of the schoolroom. Space forbids the attempt to give specific directions as to decoration but the teacher should first of all clear out all of the old rubbish that has accumulated in the way of advertising chromos and the like, should clean the walls thoroughly and then put up such decorations as may be available for the purpose. It is far better, however, to have the room severely plain than to have the walls covered with unsightly dust-gathering material.

Attention should also be given to the school grounds with a view to their improvement. Teachers who are interested will usually find ways and means of temporary, if not permanent, improvement. (See "The School Beautiful.")

8. Discipline and management. The ideal school is an earnest, cheerful, hard-working community, without any serious internal strife or discord. To bring about and maintain such a condition the community, the school board, the teacher and the pupils must all work in harmony to the end that the school may accomplish its proper work of developing character, training and developing intelligence, and giving skill in using the knowledge that is of most value in everyday life and in further acquisition of knowledge.

The teacher's fitness for her work is shown in the tact and ability with which she organizes the various elements to which reference has been made and secures the hearty cooperation of all. The schoolroom should at all times be quiet and orderly—not a death-like stillness, but the quiet that results from strict attention to business.

The teacher should constantly keep in mind that for a portion of the day *she is taking the place of the parent* (*in loco parentis*). Consequently she has a parent's authority. She is also responsible for the conduct of the pupils during the recesses and the noon intermission. On the way to and from school the parent and the teacher have "concurrent jurisdiction" and hence the teacher has the right to reprimand the pupils for bad conduct on the road. In this matter of school discipline the teacher and the parent should work together. The home and the school are the two great institutions which mold the character of the child and they should work in harmony.

The following quotation from a decision of our state supreme court shows the importance in which the state holds school discipline: "A teacher is responsible for the discipline of his school, and for the progress, conduct and deportment of his pupils. It is his imperative duty to maintain good order and to require of his pupils the faithful performance of their duties. If he fails to do so he is unfit for his position. To enable him to discharge these duties effectually, he must necessarily have the power to enforce prompt obedience to his lawful commands. For this reason the law gives him power, in proper cases, to inflict corporal punishment upon refractory pupils." (45 Wis., p. 150.)

The suggestions given above are all so evident and so commonplace that the careless teacher may pass over them in a thoughtless manner. But if the teacher will ponder over the suggestions from time to time, test her own work in its details by them, and seriously strive to improve her school and its environment, the results will tell. It is needless to say that no effort has been made to exhaust the subject of rural school pedagogy. On the other hand the effort has been made to point out but a few of the more obvious weak spots in rural school work.

SCOPE OF COURSE OF STUDY

This course is based on the requirement of the law that certain branches shall be taught in the public schools. Section 447 of the Revised Statutes contains this provision: "Orthography, Orthoepy, Reading, Writing, English Grammar and Composition, Geography, Arithmetic, Elements of Agriculture, History and Civil Government of the United States and of the State of Wisconsin, and such other branches as the board may determine shall be taught in every district school."

Orthoepy should be taught in connection with reading and spelling and no special class should be organized for the subject.

Phonics and dictionary work should be taken up as suggested in the course. A textbook in Orthoepy should not be used and no special examination should be given in this subject. Questions testing the pupil's knowledge of phonics and the use of the dictionary should, however, be asked in the other subjects.

Section 447a requires that provision shall be made by the proper local school authorities for instructing "all pupils in all schools supported by public money or under state control, in physiology and hygiene with special reference to the effects of stimulants and narcotics upon the human system." Instruction in drawing and vocal music is made optional for two reasons: first, the law does not specially provide that these studies shall be taught in public schools; second, the majority of the teachers in elementary schools are not yet qualified to teach them. Still, it is urged that regular exercises in these branches should be conducted whenever the district board is willing, the teacher is competent, and the ordinary work of the school will not be impaired thereby. *It is recommended that oral lessons in morals and manners and in the elements of some of the natural sciences be presented in the general exercises throughout the course, whenever this can be done to the advantage of the pupils.*

It is suggested that teachers make outlines of the subjects included in this manual. Such a detailed outline has been prepared for the course in language; it will be found at the end of the section devoted to the teaching of language.

The attempt made is to adapt the instruction in the various branches to the needs of the pupils in attendance upon the district schools and to the general conditions under which these schools are organized and managed. There is kept constantly in mind the effort of the past few years in teachers' institutes, county training schools, and normal schools to furnish a clear understanding of the elementary studies, and of suitable methods for teaching the different subjects.

A period of eight or nine years is usually required for a child in the elementary schools to gain a fair knowledge of the common branches. The brighter pupils may accomplish this work in less time, while the others will be occupied for a longer period. A very large percentage of the children in the state receive, before they reach sixteen years of age, all the culture which they ever obtain in the schools.

The promotion of each pupil will depend upon his ability, industry and regularity of attendance. At the same time, the skillful teacher will be able to preserve reasonable uniformity in the progress of all the pupils and to maintain proper classification.

In response to request effort has been made to indicate the work by years. A "year" is a *body of related work* and not a group of pupils. In a one-room country school it is out of the question to have eight groups of pupils. The important thing to keep in mind is that *each year's work be thoroughly done before the work of the following year is taken up.* (There is a possible exception to this in some of the work of the upper grades.)

THE ORGANIZATION OF A ONE-ROOM COUNTRY SCHOOL

Things to Do Before the School Opens

1. *Get the register and other records* for the previous year. From these learn just as much about the school as possible.

In case there are names in the records that you cannot pronounce get some one to give you the correct pronunciation. It may save you embarrassment when school opens.

2. *Find out what textbooks are used in the school.* If you are not already familiar with them, get copies and look them over.

3. *Look over the library.* There should be a list of the books. Are all the books in the library that should be there? Take an inventory. (If there is not an accession book secure one from the county superintendent.)

4. *Look over the apparatus and school supplies.* Is there anything lacking? Try to get the board to furnish all needed articles *before school opens.*

5. Of course it is understood that *the schoolhouse should be thoroughly cleaned before school opens.* The outbuildings should be put in condition and the yard mowed. Remind the board of these things in case they are negligent.

6. After looking over the records, etc., *plan thoroughly the work for the first day.* This will lead you to plan in a general way what you wish to accomplish the first week and the first month.

7. Learn as much about the physical features of the surrounding country as possible.

Suggestions for the First Day of School

1. Be at the schoolhouse early.
2. Have some work on the blackboard.
3. Have a tentative program ready. On this program make

provision for reading, language, spelling, writing, and arithmetic at least. In large schools it may be well not to attempt to organize classes in all subjects the first day. Have an exercise in writing the first day. Keep samples for future comparison.

4. Have the children sing. Let them sing some songs with which they are familiar. If possible also teach them a *new* song.

5. Have some work in nature. Teach them some *new thing.*

6. Find out all you can about the children's abilities. Remember that they have been out of school for some time and that they need to review. In the review, however, bring in something new now and then.

7. Have some stories ready for the language work.

8. Be sure that the pupils go home the first evening with the feeling that they have learned something new,—a song, a plant, a memory gem, a story—something definite that they can talk about at home.

A Few Suggestions for the First Week and the First Month

1. Much of the work should be review of what they had the year before. In this review, however, something new should be given in order to keep up interest. Very often it may be a new way of presentation,—a new viewpoint.

2. Plan the work very carefully. Remember that your success depends largely upon your ability to get the pupils to do their own work. Don't fall into the habit of doing all the talking for them.

3. Get acquainted with the parents; secure their cooperation.

4. Keep in touch with the members of the board.

5. Study the pupils; learn to know their strength and their weaknesses. Find out the cause of their weaknesses.

6. See to it that the work done has a bearing upon the pupil's life interest.

7. Begin to keep record of the work each class does and continue this practice throughout the year. It will then be a simple matter to make out a report at the close of school.

8. Towards the end of the first month have a Friday afternoon program lasting from 30 minutes to an hour. Gather together for this program, recitations, songs, and other school work. Let this program grow out of the regular work of the school.

9. Do not speak slightingly of your predecessor's work. Remember the *Golden Rule.*

General Exercises

1. All general exercises should be planned as carefully as the other work of the school.

2. Definite material for general exercises has been suggested in the outlines for Physiology and Hygiene, Civil government, and Nature study. Topics from other subjects may also be introduced. Most of the singing done in the country school will also have to be done in the general exercise periods.

3. General exercises need not be restricted to the ten minutes suggested in the program for opening exercises. Whenever there is a topic or a subject that should be brought to the attention of the whole school it is usually possible to drop some class for the time being and use the time for such exercise. A portion of Friday afternoon can often be used advantageously for such topics.

School Records

1. The register. The law provides the following:

Section 460. "The teacher shall enter in the register furnished by the clerk the names, ages and studies of all scholars attending school, and daily their attendance and absence and such other facts as the county superintendent or state superintendent may require; which register the teacher shall deliver to the clerk at the close of his service or whenever it may be required for the use of the board. The teacher shall make in writing and transmit to the board or to the county superintendent a report concerning any matter relating to his school in such manner as the board or the superintendent may prescribe and any teacher who shall wilfully neglect or refuse to make entries in the register as above required shall forfeit his wages for teaching during the time of such neglect or refusal."

The law also makes it the duty of the clerk,—

"To furnish at the expense of the district for the use of each teacher a school register in the form prescribed by the state superintendent, to procure the same to be returned to him at the expiration of the teacher's employment and to preserve the same with the records and papers of the district." (Sec. 446–7, School Code.)

2. School attendance. By Section 439c the district clerk is required to furnish the teacher with a copy of the school census. By the same section the teacher is required to report to the county superintendent facts regarding school attendance. In this matter each county superintendent usually gives instructions directly to the teachers.

3. Reports to successor. The teacher must keep a record of the work done by the various classes during the year. This record, together with a copy of the program, should be left with

the clerk at the close of school for the use of the teacher the next year.

4. Other reports. Other reports may be demanded by the county superintendent from time to time. (See law in 1 above.)

5. Final report blanks. At the end of the year a blank is to be filled out by the teacher and left with the district clerk. A duplicate should be mailed to the county superintendent. This blank gives some facts that the district clerk needs to have in order to make his report to the county superintendent, and contains statistics regarding enrollment, attendance, etc. (Blank furnished by the county superintendent.)

6. Free textbooks. If the district furnishes free textbooks, the teacher needs to keep careful record of the books and of their condition. The success of the free textbook system depends largely upon the care given the books. All books should be kept sanitary and worn-out copies discarded and replaced by new ones.

7. The library. Records should be kept of the library books. An inventory should be taken two or three times during the year and missing copies located, if possible. See the Library List of 1916–18, with reference to the rebinding of library books (p. 8) and also the pamphlet on the rebinding of library books. It is also a good plan to keep a record of the reading the pupils do during the year. In taking the inventory include pamphlets and publications of various kinds.

DAILY PROGRAM FOR A DISTRICT SCHOOL

RECITATION PROGRAM | **STUDY PROGRAM**

Time		Subject	Minutes	First Year	Second Year	Third Year	Fourth Year	Fifth Year	Sixth Year	Seventh Year	Eighth Year
9:00	9:10	General Exercises.	10	.....	.....	.....	.....	.....	.....	.....	.....
9:10	9:25	Arithmetic 7 and 8	15	Reading	Reading	Reading	Reading	Library	Library	.....	.....
9:25	9:35	Reading 1.....	10	.....	Reading	Reading	Reading	Dictionary	Dictionary	Library	Library
9:35	9:45	Reading 2.....	10	Seat Work	.....	Reading	Reading	Reading	Reading	Library	Library
9:45	10:00	Reading 3 and 4...	15	Seat Work	Seat Work	.....	.....	Reading	Reading	Reading	Reading
10:00	10:15	Reading 5 and 6...	15	Recess	Recess	Arithmetic	Arithmetic	.....	.....	Reading	Reading
10:15	10:30	Reading 7 and 8...	15	Recess	Recess	Arithmetic	Arithmetic	Arithmetic	Arithmetic	.....	.....
10:30	10:45		15	RECESS							
10:45	10:55	Language and Seat Work.....	10	.....	.....	Arithmetic	Arithmetic	Arithmetic	Arithmetic	Grammar	Grammar
10:55	11:05	Arithmetic 3 and 4	10	Reading	Reading	.....	.....	Arithmetic	Arithmetic	Grammar	Grammar
11:05	11:20	Grammar 7 and 8..	15	Reading	Reading	Library	Library	Arithmetic	Arithmetic	.....	.....
11:20	11:40	Arithmetic 5 and 6	20	Reading	Arithmetic	Library	Library	.....	.....	Civics	Grammar
11:40	12:00	Civics 7 (four times per week)..... Manual training 7 and 8 (1 per week for half year). Domestic Science 7 and 8 (1 per week for half year).....	20	Recess	Arithmetic	Library	Library	Geography	Physiology	.....	.....
12:00	12:30	Dinner.....	30	NOON							
12:30	1:00	Games (supervised).....	30								

1:00	1:10	Reading 1.....	10	.....	Arithmetic	Language	Language	Gography	Physiology	Civics	Arithmetic
1:10	1:20	Arithmetic 2.....	10	Seat Work	.....	Language	Langnage	Geography	Physiology	Civics	Arithmetic
1:20	1:35	Physiology 6.....	13	Seat Work	Library	Language	Language	Geography	.....	Geography	History
1:35	1:45	Geography 5	10	Seat Work	Library	Language	Language	.....	Geography	Geography	History
1:45	2:00	Writing (three times per week) Drawing (two times per week)	15	.....	.....	.....	.....	.....	.....	.....	.....
				.....	.....	.....	.....	.....	.....	.....	.....
2:00	2:15	Language 3 and 4..	15	Recess	Recess	.....	.....	Language	Geography	Geography	History
2:15	2:30	Geography 6 and 7	15	Recess	Recess	Reading	Reading	Language	.....	.....	History
2:30	2:40	.....	10	RECESS							
2:40	2:55	History 8.....	15	Reading	Reading	Reading	Reading	Language	Language	Arithmetic	.....
2:55	3:05	Language 5 and 6	10	Reading	Reading	Reading	Reading	.....	.....	Arithmetic	Agriculture or Spelling
3:05	3:15	Reading 1.....	10	.....	Reading	Reading	Reading	Spelling	Spelling	Agriculture or Spelling	Agriculture or Spelling
3:15	3:25	Reading 2.....	10	Library	.....	Reading	Reading	Spelling	Spelling	Agriculture or Spelling	Agriculture or Spelling
3:25	3:35	Reading 3 and 4...	10	Recess	Recess	.....	....	Spelling	Spelling	Agriculture or Spelling	Agriculture or Spelling
3:35	3:45	Spelling 5 and 6...	10	Reeess	Recess	Library	Library	.....	.....	Agriculture or Spelling	Agriculture or Spelling
3:45	4:00	Agriculture 7 and 8 (3 times per week fall and spring and once during winter). Nature Study—whole school (2 times per week fall and spring). Spelling 7 and 8 (4 times per week winter).	15	Recess	Recess	Library	Library	Language	Language	.....	.....

This program shows the study and recitation periods for a school of eight grades. If all grades are not represented more time may be given to each grade but the same general arrangement followed. In every recitation the pupil, has had a chance to prepare his work immediately before he recites. Library reading is provided in school hours for all pupils, and what each pupil is doing every period of the day is clearly shown. The course of study is based upon this program and should be taught as here outlined.

READING

I. GENERAL SUGGESTIONS

1. Importance. Reading is the most important subject taught in the school curriculum. It is the key which unlocks the storehouse of information given us by the master minds of all times. The other subjects are dependent upon it and are approached through it. Not only is it beyond comparison the most important of the conventional school exercises, but it is the first subject taught to the pupil. Many of the later habits of study and habits of reciting are formed in the primary reading class. It is here that the habits of attention, alertness, promptness, and obedience, or the reverse, are formed and are carried over into other subjects. The pupil also gets his first impressions of the seriousness of school work and learns to like or dislike school activities in the reading class.

No subject can be well taught unless the one teaching it is a friend of his pupils and a sympathetic individual, but this is particularly true in the subject of primary reading. Children are often timid upon entering school and it is in the reading class that this timidity must be largely overcome. The two strong characteristics of the child mind are imitation and imagination. In no place in the school curriculum is it more true than in the primary reading class that "as is the teacher so is the pupil." He not only observes and imitates the dress and bodily movements but unconsciously is making his tastes conform to those of the teacher. Her likes and dislikes are soon to be his likes and dislikes. Her aspirations and ideals, whether low or high, are soon to play an important part in his life, and her interests or lack of interests in things will soon be in a large measure his interests or lack of interests. It is in this class that the greatest opportunity is afforded to develop his imagination—his other dominant characteristics. He can easily imagine that he is a mouse, a dog, a bear, or any other animate object. He likes to act as teacher, to be requested to stand and read as she does; he is pleased to be or to pretend to be anything that the teacher would like him to be. He can picture from the simplest story almost anything the teacher desires to have him. In this way the teacher may direct and largely control the thought of the child.

From what has been said it is evident that the teacher's first duty is to get acquainted with the pupils so that they will feel at ease in her presence. If this is not done, they will not enter into the work with any degree of pleasure and "to miss the joy is to miss all".

The reading period must be made a happy one. Little can be accomplished if the pupils feel forced to recite. Should any large number of the school have this attitude, the textbook, teacher's manner, methods or devices used do not appeal to them and should be changed.

2. Personality of teacher. The teacher should be sympathetic, vivacious, and alert to the thoughts of every pupil. She should show an active interest in all thoughts, however crude, of every pupil, and throw her whole strength into the class work. Nothing should interfere with her most intense interest in every sentence read or thought expressed. It is the dynamic and not the phlegmatic teacher that secures desirable results.

3. Kinds of reading. Reading is of two kinds—silent and oral. While by far the greater part of the school work in reading is oral, almost all reading done after completing the school is silent. It follows, therefore, that the chief aim in the work of reading should be to teach children to be good silent readers. Silent reading is a thought getting process and must precede oral reading, which is a thought giving process. While it is true that the child cannot give the thought until he has gotten it, it does not follow that he can give it when he has gotten it. He may be able to get it in such a slow, labored way that he could not give it with pleasure to himself or to others. Again, were he able to give it readily, he might not know how to emphasize the main thoughts or ideas and, because of this, be forced to read in a monotone. The teacher's problem, therefore, resolves itself into the following main divisions:

(a) How the child is to get the thought of the printed page;

(b) How the child may get the thought easily and rapidly;

(c) How the child is to give the thought to others in an effective and pleasing manner, or how he is to read as one would wish others to tell it to him in those same words.

4. Methods of teaching. There are a number of methods employed in the teaching of primary reading. The principal ones are the word, the sentence, the phonic, the rhyme, and the rational method. Each of these methods has had and still has its advocates. While a discussion of the merits of each is out of order here, it may be said that the concensus of opinion favors the use of the best features of each method. The alphabet method is no longer to be tolerated. The word method and the sentence method both begin with a unit having meaning to the child, which practice is commendable, but, if used exclusively, necessitates the learning of an unlimited number of words or sentences without giving the child

any power to unlock a new word or sentence for himself. The rhyme method requires the learning of rhymes which are usually introduced by appropriate stories. When the rhyme is learned the pupil should point to the printed words one by one as he repeats the rhyme. If in reading he does not recognize a word he repeats the rhyme until he comes to the word which he did not recognize in the reading. The phonic method requires the learning of the elementary sounds of letters and the building of words by the union of these sounds. The rational method varies from the phonic in that it employs numerous combinations of sounds in addition to the elementary sounds. These sounds are known as phonograms and are divided into simple, such as "f", "p", "t", and compound, such as "ing", "ack", and "fl". The rational method employs both the simple and compound phonograms and by so doing simplifies the mental effort of the child. Undoubtedly a good teacher can secure fair success with any method but would secure much better success by a combination of the best features of the sentence, word, phonic, rhyme, and rational methods. The primary reading work as outlined here gives such a method.

5. Phonics. a. Phonics is recognized as the key which unlocks a large share of the words in the English language. It is, therefore, necessary that every teacher be able to give distinctly all of the elementary sounds as well as all of the compound sounds. She should teach these sounds and their combinations to the children so that after eight or ten weeks the children may use them as the chief means of learning how to pronounce new words. Not only is it necessary for the child to know the phonograms but he must know how to employ them in unlocking new words. Persistent drill is necessary in applying the sounds to determine the pronunciation of new words and to conquer the mystery hidden on a page.

b. Children often fail in the pronunciation of new words whose phonic elements they know. This is partly due to the fact that no application is made of these elements except in the reading class. To enlarge the scope of application, the teacher should encourage pupils to read new words wherever found. Give the children some incentive to unlock them. Study the kitchen with its salt, pepper, saleratus, mustard, nutmeg, etc.; the street signs such as "please", "danger", "look out for the cars"; those found on the doors of the business blocks in the village; names on mail boxes and farm buildings, bill posters, hand bills, auction sale circulars, and the advertising pages of children's articles found in magazines, catalogs, and newspapers. This work not only supplements the regular work of working out new words in the reading class but puts the child in touch with the world around him. He soon begins to feel master of the reading matter common to the adult and confident of some power within him to do for himself. This line of work is developing the initiative in the child so much desired and

so little cultivated in schools. He finds that he can bring the "Wisconsin Farmer" and not "Hoard's Dairyman" to his father without asking what it looks like, and is soon able to work out from his child's paper sentences and short articles about his playthings and pets.

c. Teachers should write for little booklets advertising such articles as: Toasted Corn Flakes, W. K. Kellogg, Battle Creek, Mich.; Tale of the Toastie Elfins, Postum Cereal Co., Battle Creek, Mich.; The Jungle Pow-Wow, Colgate & Co., New York. Also collect circulars from the local implement dealers about farm machinery, from grocery stores about garden and farm seeds, feed stores about the various prepared feeds, etc.

6. Use of the pointer. In teaching sentences, phrases or groups of words, do not allow the pupil to point to each individual word. Words arranged in sentences should be seen as wholes or groups by the pupils. Simply .draw the pointer quickly under the whole sentence or group of words. Pointing to the individual words when in sentences will tend to make the pupils *word callers.* The pointer may and should be used to point to words arranged in columns or placed promiscuously upon the board for drill purposes.

7. Teaching the articles the, an, a. These three words should be taught in connection with other words as unaccented syllables. They will first appear in connection with nouns used in the sentences taught from the board and strips and should be treated as syllables of those words.

8. The first writing

a. The first writing of the pupil should be at the board where he can use the whole arm movement and the words should be the first ones learned in the reading class.

b. Copies should be placed upon the board by the teacher in large bold type. The following order may be used:

(1) Teacher writes word and children observe.

(2) Teacher writes word again and children trace movement in the air with whole arm and extended index finger.

c. Pupils are sent to board and each trace over copy with crayon.

d. Pupils write copy same size from memory. Teach them to form mental pictures of size and form of letter or word. Do not allow them to write small poorly shaped letters. Insist on accuracy from the first.

e. Let all writing be done at board with the full arm movement for the first two months.

f. The first writing at the seats should be on unrulel paper with an extra large size lead pencil. Keep the letters large. The pencil should be held lightly and a free easy movement encouraged.

g. See writing.

9. Mechanical helps

a. Blackboard. The blackboard used should be a wide one so that words and letters may be placed upon the upper part and left there for some time. The first reading is done from the blackboard. Sentences and words are written on it to be read by the children.

b. A roller map or common window shade. This map or shade should be hung over the blackboard and used to cover sentences and words that are to be used for drill purposes. It may be rolled up when not in use.

c. Blackboard on a spring roller. A spring roller blackboard is one of the most serviceable pieces of apparatus that the teacher of primary reading can have. On this blackboard may be placed sentences, words, and phonic elements before the recitation. The map may now be rolled up and the writing kept from view of the class until the recitation period.

d. Box of colored chalk or crayon for blackboard use. The colored crayon can be used to advantage in making prominent the important words and groups of words found in sentences.

e. Bristol board or manila paper for sentence, word and sound drills. Teachers can secure sheets of bristol board or manila paper, 22 x 28 inches, at the printing office and have each sheet cut into seven strips, 4 x 22 inches, for sentence drills, and into sixteen cards, 3½ x 7 inches, for word drills. For drill purposes of the simple and compound phonograms the sheets may be cut into forty-two cards 3½ x 4 inches. The cutting of these cards should be done at the printing office where the paper is procured. Print the phonogram near the right end of card, if it is an initial sound and at left end if it is a final sound; if both, as t or p, at right end of one side and left end of other side. It may then be prefixed or suffixed to other phonograms and the proper spacing between phonograms observed.

f. Paper cutter. A paper cutter is necessary to cut up paper on which have been written letters or words already taught the children from blackboard or reader. By its use the teacher can supply letters to build words and words to build sentences already known by the children. The paper cutter makes it possible to supply the children with words and groups of words so that the children's seat work keeps pace with the reading. As the material is often renewed, it is to be preferred to the letters and words which are soon soiled and unsanitary. While the *boughten* material is of value, it seldom can be made to conform to the stage of advancement of the pupil and, if it does, it soon becomes, by continued use, filthy and often some essential parts lost. A paper cutter may be secured from school supply houses. Size 10 x 10 inches may be secured for $1.25 and one 12 x 12 inches for $1.75.

g. Pointers. Every school should own at least a half dozen hickory pointers. It is better if they are provided with a rubber tip. These pointers are very desirable for rapid game work in

phonics and word drill. Hooks to hang them on should be placed at each end of the blackboard or in some other convenient places.

h. Hectograph. A letter size hectograph about 10 x 12½ inches can be purchased of any supply company for $1.60 or one legal cap size, 10 x 15 inches, for $2.40. Each machine has a bottle of ink, sponge, and full directions accompanying it. About 100 impressions may be taken from each copy.

i. Duplicator. The duplicator, which will permit several different copies to be used upon it every day, is very desirable. The Dans Tip Top Duplicator, or one similar to it, contains about sixteen feet of rolled printing surface and this surface may be used from ten to twelve times over and over again. The directions tell how the life of the machine may be increased. It has many advantages over the hectograph and is to be preferred to it, but every school should have one or the other. Price $5.00.

j. Printing outfit. A rubber type printing outfit should be found in every school. It should print letters at least one inch in height and be enclosed in a substantial wooden box. Such an outfit can be purchased from any supply house for about $2.25.

k. Alphabet cards. Alphabet cards are one of the common forms of seat work but the letters are usually too small to be recommended. Miss Reynolds of this department, in her pamphlet, "Suggestions on the Teaching of Reading" makes the following comment: "The seat work most often observed is that with alphabet cards. This is not at all adapted for the work of the first half year. When used, the teacher should buy or make cards at least a square inch in size. She should see that the children have the letters they need to do the work assigned, and not a heterogeneous collection far outnumbering those needed, and that the work assigned is done. One good device here is to have duplicate lists of words on the blackboard but not written in the same order. One list has a letter missing from each word; the other has no missing letters. Children make the second list of words putting in the missing letters with their alphabet cards. Some recent primers have printed word cards or phonograms for the pupils' use, based on the vocabulary of the reader. These cards make possible seat work which reenforces the daily work in reading and adds greatly to the value of the primer."

l. Seat work books.

Gilman & Williams. Seat work and industrial occupations. (T)

Holton & Kimball. Games, seat work, and sense training exercises. (T)

Palen & Henderson. What and how. Thomas Charles Co., Chicago

Pickard. Rural education. Webb.

Sawyer. Five messages to teachers of primary reading. (T)

Worst & Keith. Educative seat work. (T)

Note. The abbreviation "(T)" used in booklists included herein indicates that the book in question is on the Wisconsin Township Library List of 1916–18.

Many of the newer sets of readers contain a teacher's manual giving excellent seat work material together with a method for its use.

10. Supplementary readers.

a. All schools should have at least three sets of supplementary readers for each of the first three grades. As many readers in each set will be required as there are pupils in the class. The district should provide these books and as they become worn out or too dirty to use should exchange them for new and more modern texts which contain material less familiar to the children. The book companies will allow about 30 per cent off the list price on a new book for an old copy. It is best to select readers in which the reading matter is no more difficult that that found in the basic reader. If this is done, the pupils should be able to read them with pleasure, accuracy, and fluency. In order that these readers do not become too common, it is well for the teacher to collect them after the reading exercise and keep them on her desk except at such times as she desires the pupils to use them.

b. In addition to the supplementary sets of readers containing enough copies for the whole grade, the school should be supplied with individual copies of all the leading primers and first readers. These may be used to advantage with the pupils who desire to read new subject matter and to feel the joy coming to them from conquering alone the printed page. Some of them may be found in the township library list and may be purchased from the library fund.

11. Tests for judging primers and readers. The beautiful modern primer has much to do in interesting children in reading. As this primer is essentially different from the old style it is important that teachers become acquainted with the characteristics of the modern text.

Paul Klapper in his new book, "Teaching Children to Read", gives the following tests for judging primers and readers.

a. The content should be good literature, and varied so as to include nursery rhymes, personal stories of class and school life, fairy tales, animal and nature stories, folk tales and fables, cumulative tales of the type of "The House That Jack Built", and the humorous story.

b. Early reading must be well illustrated.

c. The theme of the reading matter must be adjusted to the experience of the child. The content most natural to city children should not be imposed on country children and vice versa.

d. The mechanics of the primer must be such that there is, (1) repetition to insure mastery of form, (2) phonic difficulties well graded, (3) the hygienic requisites such as white paper, standard size type, uniformity in the length of lines, etc.

It might be added that the books should be well bound in an attractive form.

12. Library reading. Every library should contain picture books for the little people so that they may begin to use them as soon as they enter school. It should also contain suitable books for them to read as soon as they have acquired the ability. The constant use of the library should be kept up from the time the child enters school until he leaves it. To induce him to look at the pictures in a picture book or to want to read a book, it is a good plan for the teacher to show some pictures or read a chapter from it and then put it in the library. She can now give permission to the pupils who have completed the seat work or their lesson from the regular reader to get the book from the library. Chairs or some form of seats, together with a small table, should be near the library so that the pupil or pupils using the library may be seated near it. This saves time, prevents confusion, and honors the pupils who have completed their regular work. The excessive use of it, however, by pupils who fail to do the regularly assigned work should be guarded against by the teacher. This particular place near the library containing table, chairs, and papers should be designated the library corner. See the bulletin Lessons on the Use of the School Library, pages 10 and 121.

13. Pictures. The study of pictures found in the reader or collected by the teacher should receive more attention than is usually given. Pictures adorn the page, tell the pith of the story, hold the attention and arouse the enthusiasm of the pupil. Study and enjoy them with the pupil. Ask questions about them answered in the reading as well as questions that cannot be answered in it. Have stories told about the pictures. Encourage pupils to tell well not only what can be seen but have them give the probable inferences that may be drawn from them.

14. Poems. A poem is a composition in which the language is highly imaginative. It is a work of art, it expresses different emotions, and it idealizes commonplace things. It is a thing of beauty and must appear as such to the child. Often the poem as taught means little or nothing to the child. It does not convey to him as much as does a prose selection, yet it should appeal to him far more, because it is so full of thought, inspiration, and music. A plan for teaching a poem follows:

a. Select poems which touch some experience of the child.

b. Secure the right atmosphere by questions that put the child in a mood to receive the thought of the poem.

c. Read the poem artistically as a whole so the child gets the music and rhythm.

d. Explain phrases and give the mental pictures vividly.

e. Read poem again if short.

f. Let pupils read it in class for the next lesson.

Do not analyze it too minutely but be certain the pupil gets the mental pictures intended. Discuss the different mental pictures

with the members of the class. It is not necessary that all should have exactly the same pictures but they should all have some pictures.

Have the children read sentences and not lines. Do not allow them to stop at the end of every line and read in a sing song manner, but encourage them to read a line and a half or two lines, if necessary, to get a complete statement before pausing. Tell them to let the voice fall where the sense of the piece requires it and no other place. The voice should often fall at the comma or where there are no punctuation marks. Punctuation marks are not primarily intended as guides in reading but to show relationship between parts of the sentence. It is the thought or the rhetorical pause that a pupil must observe and not the grammatical pause. Read for them so that they may see how to hold words, group words and give proper tones. If pupils can group words properly and prolong them when necessary they have acquired two very important steps in learning to read a poem or poetry. See Language, p. 70.

15. Mechanics of the recitation. The manner in which pupils pass to the class and the position assumed by them during the recitation influences in a large measure the quality of the work done. Little people should move quickly to the class and stand in line back to the school during the recitation. This not only gives the teacher a chance to face the class and the school at the same time, but prevents any annoyance that may come to the class by the movements of the other pupils. If readers are used, have the pupils place them quietly on the floor directly in front of them. With hands behind them and position erect imitating that of the teacher, they are now ready for the drill work on the blackboard or word cards. The interest manifested by the teacher as shown by looks, movements, and questions will have much to do with these qualities of the pupils. The primary reading class above all others demands every moment of the teacher's time and every ounce of her interest, enthusiasm, and vigor. Seldom should anything occur in the school that should need the attention of the teacher while the class is reciting, certainly not such as answering questions for the pupils at their seats or permitting children to ask questions of the teacher. At the signal "books", all quietly take and open books.

The teacher should be and give evidence of being so interested in the selection that the pupils will catch her enthusiasm. The warmth and animation exhibited by the teacher for her work will draw children to a similar appreciation. Pupils will then not be so inclined to look out of the window, annoy other children, or be caught in a vacant, meditative stare. Every child should be doing silently what the one reciting is doing audibly.

II. COURSE OF STUDY

First Year

1. Primers and readers. The first year's work in reading should be done from several books and the class should read during the year at least two primers and the first half of two first readers. Have the first half of two primers read, then the last half of them, and then the first half of the first readers.

The ambition of each child on entering school is to read in his new book. Just as early as is possible, this privilege should be granted, but preparation is necessary that this first reading from the text be a real pleasure. The story, the rhyme, and the action sentence are recognized approaches to the work of reading, but whether these or other methods are used, the vocabulary of the first ten or twelve pages of the primer to be used must be the basis for the sentences taught so that the child will be able to read in his book with the least possible preliminary effort.

2. First week. Each day of the first week of school, two or three sentences or rhymes should be taught as wholes. The words composing these should be contrasted in form so that one sentence mass can be distinguished from others, as sentences are *wholes* to children. These sentences must be reviewed daily. This can be successfully done by writing them upon the upper half of cardboard strips about 4 x 22 inches. These strips may be passed out to children and exchanged after reading; games may be played with them; and they may be used as a seat work exercise by laying corn upon the words. Then these strips may be fastened together with paper clips by lapping the blank half under a written half, thus making a substantial and valuable reading chart which may be at all times before the class. A teacher should not prepare sentence strips or word cards until he knows the primer in use in the school to be taught. It is wise, however, to prepare these strips and cards before the opening of the school, if this is known.

3. Second week. The second week's work should accomplish the learning in script of every word in these sentences which appears in the primer. This may be done by separating the word to be taught from the sentence mass. (Children do not sense where words begin and end. This needs special attention.) It is usually best to break the sentences into words in the same order in which they were first presented. Word drills must be snappy and varied. Words may now be combined into many new sentences for reading exercises.

4. Third week. The work of the third week should be to teach the pupils to read the sentences and words in print that they have

learned in script. A printing press makes it possible for the teacher to print the sentences beneath the written ones on the strips previously made, putting printed words directly below the script form. Word cards may be treated the same way. Each day of this week the sentences taught the first week may be presented on the board in script, then in print, then on the strips. These strips as used may be again fastened together to make a printed chart by lapping the written half. Word cards may be folded or cut so that only the printed word will appear, after the words are recognized in print.

5. Fourth week. By the fourth week pupils should have had on the board and on printed slips practically all of the sentences found on the first ten or twelve pages of the primer. Now give the pupils their books. Let them experience the joy that the power to read gives them. This spontaneous reading, made possible by a minimum amount of preparatory work, gives the pupils from the first proper standards of reading and they will not attempt to read in a less finished manner.

Continue the drill on the board and on the slips as is suggested in II, 8 during the school year. Prepare the child well to read his daily lessons in the book by word and sentence drill as has been outlined.

6. Phonics. Begin the teaching of phonics here. The consonant sounds should be taught first and the initial consonant sounds of the words that have been taught should receive first consideration. See Teaching of Phonics, II, 9.

As soon as new words appear in the lessons, a careful development of each advance lesson is necessary. Interest the children in the pictures in the text. Get from the pupils the words and sentences that are new by asking questions about the pictures. Drill upon these expressions. This method may be followed until pupils have mastered a sufficient number of phonic elements to enable them to *unlock* the new words in each lesson.

7. Expression. Children should from the first week read in just as finished a manner as adults would read. This may be accomplished by having a study lesson in which the proper oral expression of each sentence is emphasized and pupils are filled with the idea that oral reading is an art. For the finished reading lesson the aim is to give the thought of the page to others in an entertaining manner. The last half of the period devoted to a finished reading will of necessity be spent in a preparatory word development for the new lesson to enable the child to get the thought from the book. "Tell the story to us," is a good child's aim for this part of the reading work.

8. Steps in a primary reading recitation

a. Sentences from primer written on blackboard and covered with the roller map until class recites.

b. Reading of sentences on blackboard.
c. Reading of same sentences on strips.
d. Drill on words from sentences on board.
e. Drill on the same words on cards.
f. Drill on the initial consonants of these words on blackboard and on cards.

9. Teaching of phonics

a. If the reader presents a system of phonics, study it until you are thoroughly familiar with it and then follow it. Commonplace work is often caused by teachers not understanding a method well. A book built upon a system of phonics can be best taught by following that system. It is therefore easier for the teacher as well as more fruitful for the pupils to have the teacher familiarize herself with the method and not try to adapt the book to her method. If the book presents no method the following is suggested as a guide.

Teach those consonants first that are the initial sounds of the words taught. Suppose one of the first sentences taught is: "Fannie has a yellow flower." All these words are found in the primer and should be the first words taught. "F" being an initial sound should be first taught. The following is one way this may be done: Readers will give other devices.

b. Tell a short story about yourself. The story should be a probable one and should contain recent occurrences. A personal story that shall represent nearness in time and place is the best one for little people. Let the climax of the story be the giving of the sound made by your pet cat when angry. After giving it vigorously, write the character "f" upon the blackboard. Give it again and then have the whole class give it. Have them hit it hard or give it forcibly. Do not let them slide up on the sound but give it with such vigor that the whole body responds. Some animals, and often inanimate objects, make the sounds represented by the consonants. Teach the other consonant sounds in the same way. When one has been taught, place it on the upper part of the blackboard enclosed in a box. [f] It should remain there in sight of the pupils and as others are taught they should be placed in similar boxes near it.

c. After the consonant sounds used in the words taught have been mastered, introduce those phonograms which are combinations of a vowel and a consonant sound. This may be done by preceding the consonant sound by the short vowel sound as: an, at; en, et; in, it; on, ot; un, ut; or by blending the consonant sound with the vowel as: ha, la, pa, sa, fa, ma, ra, ta, ba. In the former case, words may now be built by prefixing certain consonants as:

f-an	c-at
c-an	s-at
m-an	r-at
r-an	f-at

In the latter case by suffixing consonants as:

ha-t	la-p
ha-m	la-d
ha-d	la-g
ha-s	la-w

While word lists may be built in two different ways the teacher should confine her teaching **to one system only.**

Many words may now be built by the pupils for seat work. Tell them the number they are to write in each word family. They should not be asked to write words not in their visual or oral vocabulary.

d. Add "e" to certain word lists. This makes the preceding vowel long. Now have other word lists made ending in final *e.* Teach such word phonograms as *at, an, ate, and,* etc., also the difficult consonants and blends as they are met with in the book used. After they are taught, write the consonants and blends at the top of the blackboard alphabetically arranged, so that pupils may refer to them in writing word families.

10. How to handle word and phonogram cards. Have large words turned toward the pupils and the word written small in the upper left hand corner of the reverse side. Do not use more than ten or twelve cards at once and shift quickly. Raise the card nearest you for an instant, then lower. If pupils pronounce correctly, place card in front of the others; if unable to give sound quickly, lower card from view of class and show again. Work for rapidity.

11. Ear training exercises in phonics.

a. Place a collection of objects or pictures of objects in view of class Then pronouncing very slowly and distinctly by the name of each, ask: "Who will bring me a b-oo-k?" Wait between words for the pupil to recognize the word and to bring the object or picture.

b. Ask pupils to perform certain actions, as: R-a-p on the d-oo-r. C-l-a-p your h-a-n-d-s.

c. With letter cards, form in view of the pupils a word like r-a-p. Pronounce each word slowly, prolonging the sound; then ask: "How many sounds has the word? What is the first? What is the second?" The pupil may now take the word apart, sound by sound, as teacher pronounces it. He may also put the cards together to build a word again. This helps children to see that a word is composed of a collection of individual sounds and that each sound is represented by a letter.

d. Recite a Mother Goose rhyme to the children and ask them to tell you all the words in the rhyme that begin with a certain sound or that belong to a certain family. Nonsense rhymes like the following may also be used:

"Johnny, there's Tommy at the gate,
Tommy, you see, was Johnny's schoolmate,
Run to school quickly, or you will be late,
And don't forget to take your slate.
On Saturday they went with Aunt Kate
To the pond to learn to skate,
Mother put their dinner on a plate
And put it down in front of the grate."

e. Whisper a word and see how many can tell what the word is.

f. How to teach blend. Write the letters very far apart and connect them with a line thus: s a t Have distance between l l l

"a" and "t" greater than distance from "s" to "a" to show that the vowel should be more prolonged than the consonant. Call the line the railroad track. The sounds of the letters are the cars. Car "s" runs along the track until it meets with car "a", then "a" pulls it on to "t". The game may be played in the following manner:

Let the pupil sound the first letter as teacher points to it. The teacher draws the pointer slowly along the line until it reaches second letter, gathers up second letter without stopping, and runs on to the third letter. The pupil must prolong the sounds as the pointer is being drawn along the line. The train runs off the track if one sound stops before it reaches the next. The train travels very slowly at first, then faster and faster.

g. If pupil has difficulty sounding out a certain word, write the letters hit and miss on the blackboard and point to the individual letters composing the word. When the child is perfectly familiar with individual sounds, then return to the word.

12. General devices for drill in phonics.

a. Teacher writes letter on blackboard and pronounces sound vigorously. Have the pupils do the same in concert. Repeat and have pupils repeat until the sound is given distinctly and audibly.

b. Have individual pupils pronounce it. Skip around the class, having different pupils give the sound to see who can give it best.

c. After several sounds are taught, write the letters promiscuously on the blackboard. Teacher now points to a letter and a pupil gives the sound. Do this as rapidly as the pupil can go. Vary it by having two pupils follow the teacher to see who can give them faster.

d. Draw a staircase, writing a letter on each step. Have a pupil climb the stairs. If he fails on a sound, show by colored crayon where he stopped. Tell him to sit there till he can go on. Have other pupils attempt going up the stairs. Possibly others will have to sit beside the first one.

e. With a number of letters on blackboard, teacher gives a sound and pupil finds it. Vary by having one pupil give a sound and others find the letter.

f. Rapidly sketch a tree and fill it with letters. See who can pick them all from it. Vary by filling a box.

g. Bring the different utensils used in the kitchen and place them on the table. If you can't get the real articles, pictures will answer the purpose. Tell the children that the word you are going to write on the board is the name of some article on the table and they can easily tell what article it is by sounding out the word. The first one who succeeds in sounding out the word may pass to the table, pick up the article and show it to the rest of the class. Following is a list of the articles that may be used for this purpose: Strainer, chopping bowl, egg beater, spoon, tumbler.

h. Bring attractive advertising cards into the schoolroom and let the children read the advertisements.

i. Bring the different magazines and newspapers into the schoolroom and have the children name them.

j. Let pupils fold a piece of paper from directions written on the board.

k. Ask the children to bring you a certain number of difficult words that they have found in newspapers, magazines, and other books than their readers, and pronounce them for you. These should be difficult words that they have worked out independently.

l. Write nonsense rhymes on board and let the children study them out and then read to the class.

Example: "The cat is in the pantry,
The dog is in the lake,
The cow is in the hammock,
What difference does that make;

m. Place a list of action sentences on the board and have each child study the sentence through and then perform the action.

Examples: "Clap your hands, John."
"Hide under the desk, Charles."
"Whisper to Olive, May."

13. Suggestions for teaching sight words

a. Introduce the new word by writing it upon the blackboard and tell a simple little story about it. Suppose the words to be "no" and "yes".

"Once there was a little baby who was just learning to talk. She broke her doll. Her mamma said to her: 'Baby is a bad girl'. Baby shook her head and said: 'No, no, no'. Then her mamma said, 'Is dolly bad?' and baby said, 'Yes, yes, yes.'"

b. Action words may be taught by allowing children to perform the act suggested.

c. Some words such as fly, spider, table, chair, book, etc., may be taught by simple drawings or pictures.

d. Blue, green, etc. may be written with colored crayon.

e. "Little" may be written in small, and "big" in large letters.

f. "Please" is the polite word.

g. "Play" tells us what we like to do at recess.

h. "Eat" tells us what we like to do when hungry.

i. "What" is the word with its lips always open to ask a question.

j. "Look" has two big, big eyes in the middle looking straight at you to remind you what it is doing.

14. Games and devices for drill in reading

a. Write sentence on board. Pupils read silently and at signal of teacher give thought.

b. As soon as pupil can read the sentence, have him turn his back to board.

c. As soon as pupil indicates he can read a sentence, have him whisper it to the teacher.

d. Give two or more meanings to a sentence by the placing of the emphasis. Illustration:

"The little (not large) red hen found a seed.

"The little red (not white) hen found a seed.

"The little red hen found a seed (not an apple)."

e. Have the pupil who first reads the sentence perform what the sentence tells him to do.

f. Have articulation exercises on "ick", "ang", "ight", etc. families. Let pupils vote for the winner.

g. Time the children on pronouncing accurately a list of words.

h. Drill on phrases in the same way as with words.

i. Have a race between two pupils on a column of words to see who can name words faster. Select pupils of about equal attainments and make work snappy.

j. Write words or groups of words promiscuously on blackboard and cover with roller map. Raise map and have two pupils race to find words as teacher names them. The teacher must pronounce rapidly enough to keep a little ahead of pupils. Vary the method by having one of the pupils pronounce.

k. In place of words as in j use letters. The teacher gives the sounds and pupils find them.

l. Give the meaning of a certain word written on the board and let the pupil find the word and pronounce it. Example:

(1) Find the word that tells us where Hiawatha lived—wigwam.

(2) Find the word that tells us with whom Hiawatha lived—Nokomis.

m. Make a picture corresponding to a word if it can be illustrated and have a child erase the word that corresponds to the picture.

n. Spider and fly. Let the children (representing flies) form a circle, and one child (representing a spider) stand in the center. Let each fly hold a card and let the spider catch the flies he can name correctly.

o. Wide awake. Write word and erase instantly. The pupils who get the word may do any one of the following things: sit on

the floor, turn backs, raise one finger, fold arms, hands on top of head, hands on hips, hands on shoulders, run to door, etc.

p. Write new words on leaf forms cut from paper. Throw the leaves into the air and let the children catch them as they fall or pick them up after they have fallen. The child who gathers the most leaves and names them correctly may throw them into the air the next time. Game may be varied by writing the words on snowflakes, nuts, apples, etc.

q. Balloon game. Draw pictures of colored toy balloons on the blackboard. Place a word in each balloon. Let children buy the balloons by naming the words.

r. Boxing the words. Write several words upon the blackboard. Let one child name one of the words and another child may draw a box around the word.

s. Clock game. Draw a large circle on the board and place words around the circumference. Pointer may represent hands of the clock. See how many can go clear around the clock without making a mistake.

t. One child acts as teacher and calls on some member of the class to name two or three words in the list. If child called upon to name the words pronounces all words correctly, he may take his turn pointing.

u. Children form a circle. Teacher shows word card to the children. If child gives the wrong answer or does not name the word instantly, he must go to center of circle. If child in center can answer before the one whose turn it is he may take the second child's place and second child goes to the center.

v. Place list of new words on the board. Give a child a pointer. Let another child come up and turn his back to the blackboard. Child who has the pointer points to a certain word in the list. Child who has his back turned to the blackboard guesses what the word is by asking: "Is it water?" Class answers: "No." Continue until the word is guessed.

w. Divide the blackboard into spaces. In each space place a word. Call each space a mile. Select two children to run a race. Start one at one end and one at the other. The one running the greatest number of miles correctly wins.

x. Squirrels gathering nuts. Write the new words upon cards and stand in the chalk tray. Teacher calls for a certain word. Child who sees the word first runs and gets the word (nut) and brings it home with him. The squirrel gathering most nuts is considered the best worker.

y. Choose sides or arrange boys on one side and girls on the other. See which side names first the most word cards as teacher holds cards in view.

z. Teacher writes a list of the new words on the board. On a slip of paper she writes one of the words written on the board and the children are to guess the word the teacher has written on the

slip by asking a question like the following: "Is it play?" The child who guesses correctly may go up to the teacher and whisper the word he wishes her to write on the next slip.

aa. New words are written on the board. Teacher says: "I am thinking of a word that begins with the letter 's.' Who can point to the word and name it?" Child who names word correctly may play the part of the teacher the next time.

bb. Drop the handkerchief. New words written on the board. Children form a circle. Child who misses a word goes to the center and must stay there until he can name a word that some one else has missed.

cc. Jack and Jill. Draw a picture of a hill with words stretching up to it in two rows. Let a little boy and a little girl take a hold of hands. Class recites first part of Jack and Jill. Now the children who represent Jack and Jill begin to climb the hill in the following manner: Girl names bottom word in one row; boy names bottom word in another row. If either one misses a word, class recites the last half of the jingle, saying either Jack or Jill as the case may be.

dd. Boy Blue. Boy Blue (child) may drive in the sheep by saying words on the pictured sheep scattered about the meadow (blackboard). Drawings of sheep may be very simple.

15. Library lessons. Teach the lesson on "How to Handle Books," page 22, Lessons in the Use of the School Library. If there is a public library in the district, introduce the children to it, as suggested on page 13 of said publication.

16. Library reading. The following list of library books is a good one for pupils of the first grade. All are on the Township Library List of 1916–18.

a. **Readers**

Blaisdell & Blaisdell. Boy Blue and his friends
Cox. The Palmer Cox brownie primer
Grover. The sunbonnet babies' primer
Mother Goose. Jolly Mother Goose annual
Norton. The heart of oak books, book 1
O'Shea. Six nursery classics

b. **Picture books**

Cock Robin and Jenny Wren
Mother Goose's A B C
Nursery land
Pretty pets

For suggestions as to the library reading by children of this grade, see "Books for Youngest Children," and "Picture Books," page 121, Lessons on the Use of the School Library.

Second Year

1. Scope. The second year pupils should review the more difficult selections and complete the first readers. In addition to this, many fables and folk stories and four or five second readers should be read. Individual copies may be gotten from the library and from homes in the district. If the pupils are properly taught, they will complete a large number of readers. Some second year classes read twenty books in a year. During the library periods give the pupils easy reading material for silent reading. See Rural Education, by Pickard, p. 102.

2. Devices. The devices for phonic, word, and sentence drill given for the first grade should be continued in the second. Many of the games there suggested will be played with increasing delight.

3. Expression. Work for expression and for thought of the reading matter. The pupils must read with good expression or they will not like to read, and if they do not like to read the teacher is failing to teach the subject properly. Do not allow them to read too difficult matter. Better have it too easy than to difficult. Have them read a number of easy books in place of a few difficult ones. They should not read in monotone or in a semi-conscious condition as is often the case. Neither should they grow up *word callers.* If normal children do not read with good expression, enjoy reading to the teacher and at home, the teacher is likely failing in some of the following ways:

a. In allowing the pupils to read too difficult matter.

b. In omitting proper word and phonic drill.

c. In neglecting proper eye training.

d. In allowing the child to read before the teacher has shown her interest in the selection by questions and actions.

4. Oral reading. Oral reading is the last one of many parts to a reading recitation on any selection. The child must be prepared by proper drill on the mechanical parts and by arousing his interest in the selection. There is too much formal reading—just reading. No one believes that children should be allowed to read in a careless, indifferent, humdrum way, yet this kind of reading is all too common. Every oral recitation should be conducted as though the teacher and pupils were trying to accomplish some definite thing. If the question, "Why did you read?", were asked a pupil by a visitor, the pupil should reply as follows or give some equally good answers.

a. To see if I could give the proper grouping of words;

b. To find out the answer to certain questions raised by the members of the class;

c. To see if I could place the emphasis on certain words which would give the proper meaning;

d. To cultivate proper tones;

e. To train myself to enunciate and articulate distinctly;

f. To enjoy the selection;

g. For the pleasure of the teacher and members of the class.

He should not be reading because it is his turn, to keep him from mischief or simply to fill in time. The teacher and pupil alike should know and be able to tell why he is reading.

5. Order in studying a selection. After the lesson is assigned the following order is a good one to follow in teaching it.

a. A short, rapid test of the word and phonic elements taught in the assignment.

b. Drill in eye training and in the placing of emphasis.

c. Story of the lesson.

d. Question for thought and for the mental pictures of the children on the selection.

e. Reading for expression.

f. Occasionally dramatizing a story read.

6. Haste versus good reading. As a rule do not attempt to pass through all these steps in studying a selection in one recitation period. The first two, three, or four may be enough for one recitation, and the remaining steps may then be taught at the next recitation period. Often one whole recitation should be devoted to a single step. Do not think the pupils must read orally at every recitation period. Reading is not:

a. Drawling out words.

b. Going through certain mechanical movements every day.

c. Passing over pages without getting the thought.

d. Finishing so many pages or books.

Reading is: (a) Getting the thought from the printed page or giving thought obtained from the printed page to others. (b) *Good* reading consists in giving his thought to others in a pleasing and convincing manner. The following suggestions may help teachers to do this:

7. Suggestions in teaching the steps in a selection

a. The word and phonic test at the beginning of a recitation presupposes teaching and drill work on these words as to pronunciation and meaning in the assignment at the previous recitation. Follow directions for drill given in the first grade. Do not allow pupils to read unless they know the pronunciation and meaning of words. The meaning is best determined from the context or by using a word in a sentence.

b. Eye training is necessary to secure smoothness and ease in reading. Hesitating and choppy reading is often the result of pupils seeing only one word at a time. To overcome this it is well to give a short exercise daily requiring pupils to take in at a glance a phrase or a whole sentence. This may be quickly done by writing sentences taken from the lesson or composed of words from the

lesson on the board and covering them with a roller map until class time. By exposing the lower sentence for an instant only, and not the others, the pupils soon become expert in taking in whole sentences. When this can be done the attention may then be given to phrasing, emphasis, etc.

Children after mastering the early difficulties of reading should be trained to read silently with rapidity.

Some people have the power to comprehend in a general way the contents of a page by passing the eye slowly from the top to the bottom of it and not from the left to the right.

c. As a rule several pupils should be called upon to tell a part of the story of the lesson. It should not consist in simply giving in one sentence the title of the selection, but on the contrary should contain every circumstance given by the author. The pupils should face the class and tell it in an entertaining manner, the object being to tell it as entertainingly as the teacher could.

d. After the pupils have told the story as well as they can certain points will usually have been overlooked. It is the teacher's time now to question closely for the thought to find out who has carefully read the selection. Ask questions that not even a close reading of the lesson will answer as well as questions that a close reading of the lesson will answer.

e. The pupils are now prepared to read. Do not let them do so, however, without a purpose. Every oral reading recitation should have some definite aim and the teacher as well as the pupils should know what this aim is.

8. Assignment

a. Teach pronunciation and thought of new words and idioms.
b. Give word and phonic drill.
c. Question to arouse interest.
d. State the definite length of lesson.
e. Give special directions for seat work.

The assignment of the lesson is as important as the recitation proper. Little people cannot study unless they know what and how to study. The new words must be mastered as to pronunciation and thought or a proper studying of the lesson is impossible. Approach the pronunciation through the use of phonics whenever possible. Suppose the new word to be "playmate." As the teacher writes "pl" on the board the pupils give the sound, then as "a" is written the pupils give its sound and so on until the word is finished. After the last sound the pupils pronounce the whole word, playmate.

When the thought of the more difficult words is mastered and the pronunciation fixed by drill exercises as given in the first grade, the teacher should arouse the interest of the class by questions that will require a careful reading of the lesson to answer.

9. Picture Study. Do not fail to study the pictures. Pictures not only make books attractive but arouse interest in the selection

and help in its interpretation. Have the pupils tell in story form all that can be seen in the picture and the probable inferences that may be drawn from it. Have one pupil tell the story of the picture and another the story as gotten from the reading. See p. 7. Also Language, p. 67 and 68.

10. Emphasis. Unless pupils can place the emphasis when and where needed little progress can be made. Emphasis is used to make an idea stand out prominently and in conversation is secured in many ways. The following may be used to advantage in reading:

a. Speaking the word louder—the common and poorest way
b. Speaking lower or whispering the word
c. Pausing before or after words
d. Reading faster or slower
e. Holding or prolonging the word
f. Inflection
g. Tone of voice
h. Facial expression
i. Bodily movements

Use type sentences for drill in placing emphasis. The teacher should read the sentences, show how the emphasis is placed and how the placing of emphasis on different words changes the meaning. Continue this line of work in the daily reading until the children are able to put several meanings into the same sentence.

We employ all of these ways many times a day in ordinary conversation to emphasize our thoughts, yet very seldom do teachers call attention to any particular way of doing this in the reading class except speaking the word louder. Exercises in placing the emphasis and the particular way of doing it should be early taught and continue throughout the course.

First graders delight in reading a sentence so as to make it mean two or three different things, and the eighth grader cannot become an accomplished oral reader without being able and knowing how to place special stress on words and groups of words.

11. Library lessons. Review the lesson on "How to Handle Books," page 22, Lessons on the Use of the School Library. If there is a public library in the district, induce the children to take out borrowers' cards and to begin drawing books for home reading. Teach public library regulations, such as renewals, fines, etc. Consult with the public librarian in this connection.

12. Library reading for the second grade. All the titles are on the Township Library List of 1916–'18.

Baldwin. Fairy stories and fables; second reader grade
Bannerman. Story of Little Black Sambo
Bigham. Merry animals tales
Burgess. Goop directory
Chance. Little folks of many lands
Chutter. The art-literature readers, book 2
Foulke. Twilight stories

Harris. Eugene Field reader
Lang. The sleeping Beauty in the wood and other stories
Lansing. Rhymes and stories
Mother Goose. Only true Mother Goose melodies.
Norton. Heart of oak books, book 2
Potter. Tale of Peter Rabbit
Potter. Tale of Squirrel Nutkin
Scudder. Verse and prose for beginers in reading

For some suggestions in regard to the library reading in this grade, read "Books for Youngest Children," page 121, Lessons on the Use of the School Library; also "Fairy Stories, Fables, Folklore, and Legends—General Reading", page 98 in the same publication.

Third and Fourth Years

1. Readers. These grades should read at least five or six third readers. Keep the reading matter easy and work for expression.

2. Drill exercises. The drill exercises in phonics, words and sentences should be continued as vigorously in these grades as in the preceding ones. Make constant application of the knowledge of the simple and compound phonograms in unlocking new words. Do not pronounce words for pupils when they can, with a little help from the teacher, get the pronunciation themselves. Read to the children. Read a sentence and then a paragraph. Ask the pupils to listen to tones, notice the word grouping, how to emphasize, etc., and then have the pupils read.

3. Drawing. In addition to the steps given in teaching a selection as outlined for the second grade, have the pupils as a part of the preparation draw on paper during their study period the mental pictures produced by reading the selection. They should not be asked to draw the pictures in the book, but those suggested by the reading. At first they will be crude but with a little help from the teacher on how to represent what they desire, it is surprising how rapid the improvement will be. The child who gets the most complete mental picture from the reading will, as a rule, produce the best drawing. This drawing should be displayed upon the bulletin board each day and, when exceptionally good ones are made, left there for a number of days. The drawing necessitates a careful reading, trains pupils to form mental pictures and cultivates power to express what is seen. See drawing.

4. Dictionary. Dictionary work should be begun in these grades. The pupils should use an elementary or abridged edition and the teacher should take time to familiarize the pupils with its use. This is the place to begin to teach diacritical marks. They should be introduced as a help to getting pronunciation from the dictionary.

In lessons on the Use of the School Library, published by this department, twenty pages are devoted to the use of the dictionary.

It contains a graded course in the use of the dictionary and devices for teaching such use more complete than can be attempted here. See indicated dictionary work for grades three and four on pages 20 and 21 of said publication.

5. Spelling. Intensive work in spelling should be done in these grades. For material to be used, the methods for assignment, seat study, and the recitation, see Spelling, p. 31 and 32.

6. Pupils should pass judgment on content. While every selection necessitates the asking of questions peculiar to it the following will serve to guide the teacher on what may be asked:

a. What is the most important truth in to-day's lesson?

b. Are there any choice descriptive passages that should be committed to memory?

c. Is the information worth remembering? Why?

d. Why did the author write this selection?

(1) To entertain?

(2) To give information?

(3) For financial gain?

(4) To set forth higher ideals of life?

7. Varied Subject Matter. The modern school reader will give reading matter well adapted to pupils in these grades. Should your school have the old type reader, it will be necessary to supplement it with certain types of stories such as Folk Tales, Fairy Tales, Fables, and Myths. In addition to this, memory gems and long selections of choice poetry should be taught. The teacher, however, cannot do this well without knowing the gems or poems herself. Nowhere is it truer that you cannot teach what you do not know than here. The reproduction and dramatization of stories in the first and second grades should be continued in these grades. The value of a story or poem can often be measured by the interest of the children and their desire to make it their own.

8. Library lessons. See under "4, Dictionary" above. The specific lesson assigned to the fourth grade reading class is that on "Definitions" page 32, Lessons on the use of the School Library.

9. Library reading for third and fourth grades. These books are all on the Township Library List of 1916–18.

Aesop. Child's version of Aesop's fables
Andersen. Stories.
Andrews. Stories Mother Nature told her children
Andrews. Seven little sisters
Barrie. The story of Peter Pan for little folk (O'Connor)
Bass. Stories of pioneer life
Bigham. Merry animal tales
Burgess. Old Mother West Wind
Carroll. Alice's adventures in Wonderland
Chase. Children of the wigwam
Collodi. Pinocchio

Dopp. Tree dwellers
Eggleston. Stories of great Americans for little Americans
Grimm. German household tales
Jatakas. Jataka tales
Lang. Cindrella; or, the little glass slipper and other stories
Lang. Jack the giant killer and other stories
MacIntyre. Cave boy of the age of stone
Peary. Snow baby
Perkins. The Dutch twins
Shaw. Big people and little people of other lands.
Stevenson. Child's garden of verses.

For suggestions as to general reading read those articles applicable to grades three and four which are referred to on page 14, 'Lessons on the Use of the School Library.

Fifth and Sixth Years

1. Purpose and scope. The mechanics of reading begun in the preceding grades must now be made habitual. Whatever impressions are made should be deepened by repetition. The pupils should now acquire, if they have not already acquired, the reading habit and should commit to memory an abundance of worthy literary selections. These grades should read at least a fourth and a fifth, or two fourth or two fifth readers, depending upon the difficulty of the readers used. Supplement these basic readers by hero stories and tales. See history stories for fifth and sixth grades under the subject History. If there are enough of any of these books in the library for the class, use them for informational purposes. The lessons should be studied and recited topically, in the class. As a rule do not have oral reading from these informational books after the lesson has been prepared. The books should be closed and the class conducted as is a history class. Do not ask the pupils to read the lesson. It is the teacher's business to test them on what they have read. Much reading may be done if she simply discusses with the pupils the substance read. Historical and geographical books found listed for these grades will supply suitable material. Much reading should be done from children's magazines, papers and books approved by the Boy Scout movement, etc. Develop the power of choice in reading and occasionally have artistic reading of favorite selections.

2. Formal exercises. Give special lessons on interpreting diacritical marks, getting the meaning of difficult words from the context, in the use of the dictionary for the meaning of new words and for discriminating between the several definitions of individual words. Both teacher and pupil should get the dictionary habit, and both should get, or better have, the reading habit.

3. Dramatization. Continue the dramatic element of the reading lessons through the grades. If this is done it will develop much more interest and lead to a keener insight into the class reading.

When practical children should be given some place about the schoolhouse at recess or noon where they may rehearse orally their interpretation of the reading lesson. Much of the success of this kind of reading, however, depends upon the teacher's attitude toward it. It should be taken seriously but when anything amusing occurs the children should be permitted to laugh and the teacher should laugh with them. It is an accomplishment to know when to laugh.

4. Home reading. There are always some girls and boys, especially boys, who do not care for reading and there are others so infatuated by books that they read everything that they can procure. To find out what will interest the one and how to change the other to wise lines of reading is a problem for the teacher. The pupil who does not like to read must be encouraged to read: the one who reads too much and without discrimination must have his habit directed by tactful suggestion and the one who reads too many novels must be led to an interest in other kinds of literature. Stanley Hall says: "Boys care very little for style, but must have incidents and heroes. Girls prefer domestic stories and those with characters like themselves and scenes more like those with which they are familiar." Teachers may very profitably give credit in the reading class for the reading of a certain number of books approved by the teacher. A written report of these books may be made in these and succeeding grades.

a. Book report—Written

(1) Title .....Author .....Publisher .....
(2) Classify book as: Story
Novel
(3) Characterize it as: humorous, pathetic, thrilling, dry.
(4) Name and describe the chief characters.
(5) Where is the scene laid, and what period of time?
(6) Relate the incident you liked best, and describe the most vivid scene in the book.
(7) Would you recommend the book to other members of the class? Why?

b. Book report—Oral

For an oral book report see geography, page 151.

The teacher should often have oral book reports and insist on their being given in an entertaining and interesting manner. In this connection read "Reports on Books Read," page 14, Lessons on the Use of the School Library.

5. Library lessons. Teach the lessons assigned to the Reading Class, Grade 5 and Grade 6, page 20, Lessons on the Use of the School Library.

6. Library reading for fifth and sixth grades. All these books are on the Township Library List of 1916–18.

Andrews. Ten boys who lived on the road from long ago to now
Arabian nights
Baldwin. Four great Americans
Blaisdell. Stories from English history
Brown. In the days of giants
Burnett. Little Lord Fauntleroy
Defoe. Robinson Crusoe
Eastman. Indian child life
Edgeworth. Waste not, want not, and other stories (O'Shea)
Field. The Eugene Field book
Gale. Achilles and Hector
Headland. Our little Chinese cousin
Jenks. Childhood of Ji-Shib, the Ojibway
Otis. Peter of New Amsterdam
Otis. Toby Tyler
Paine. Arkansaw bear
Pyle. Some merry adventures of Robin Hood
Rame. Child of Urbino
Schwartz. Five little strangers
Seawell. Little Jarvis
Seton. Krag and Johnny Bear
Sewell. Black Beauty
Spyri. Heidi
Stoddard. Talking leaves
Wyss. Swiss family Robinson

For further suggestions as to general reading by pupils of these grades, see list of articles on page 14, Lessons on the Use of the School Library.

Seventh and Eighth Years

1. Readers and periodicals. These grades should read at least two sixth or seventh grade readers for the basic work. Encourage silent reading from library books. In addition to this they should read agricultural journals, and such magazines as Popular Mechanics, St. Nicholas and the National Geographic Magazine.

2. Intensive and general reading. Study intensively certain selections as types to develop the power of choice. The material selected for this should be good literature and should be adapted to the age of development of the children. After this, read topics of the day from newspapers and magazines. Show the difference between literature and common newspaper information.

3. Library. Encourage the use of the dictionary and library to solve the meaning. Give only enough help on idioms and difficult phrases to have pupils able to study intelligently. Stimulate energetic and well directed effort by proper questions during the assignment. Excite self activity and be responsive and appreciative to every honest effort of pupils.

4. Rapidity. Develop power to read rapidly for substance as contrasted with intensive study. Assign certain selections to be read in a given time and then test to find out who has read the most and the most accurately.

5. Setting. Selections having a geographical or historical background should be given the proper setting before being studied. The pupils should be able to picture the country and to follow when reading the location of places and anecdotes referred to. Map work before reading proper is not geography but a necessary phase of reading. Maps and their interpretation are as necessarily a part of the reading work of these grades as is the dictionary. Do not spend time on reading matter beyond the comprehension of the pupils, or when the spirit or social conditions of the times are not understood.

A recitation or two to *prepare* the class for an intelligent study of the lesson may at times be needed if the selection is to be used.

6. Silent reading. *Have much silent reading under the direction of the teacher.*

a. Thought-provoking questions should be given by the teacher during the assignment. The pupils then search for the answers. The one finding an answer first reads.

b. Each child reads a different book or story and then reads the most interesting part to the class. He should be able to give a brief synopsis preceding and succeeding his incident.

c. Each child with a book chosen by himself or the teacher makes a written report of it. He may also make a synopsis of it.

d. After studying a selection the pupil reads aloud and asks questions of the other members of the class on his reading.

e. Have the pupils select a member of the class to read a selection to the school for opening exercises.

f. The class is given a certain time to read, after which books are closed and pupils are tested to see who can give the most information.

7. Home reading and study. "The time has come when much home study and collateral reading may be required and when children may be permitted and encouraged to read along lines in which they are specially interested. An increased interest in reading is characteristic of this period. The first impulse to greater interest in reading comes at the eighth year; it increases steadily to twelve years, and then takes a rapid rise to fourteen, reaching its height at fifteen. An investigation of books used by boys shows that they use books of travel, adventure, and biography; while girls prefer fiction. The thirst at this time must be satisfied and parents and teachers can well afford to spend much time and thought upon the selection of reading material for so important a period."

8. Physical and spiritual changes. "The physical disturbances occurring during the upper grammar period and immediately following it are shown in the increase in size and in height. There is an enlargement and functioning of all the organs, and elongation of the vocal cord, increase in the volume of the heart, etc. The whole system is undergoing a change. Nervous centers, glands, voluntary and involuntary muscles—everything is affected. There is an influx of new sensations—mind fills with hopes, dreams, tempestuous passions, and new ideas. The spirit of independence is developing, egoism is giving way to altruism, social impulses are becoming dominant, and the reasoning powers are coming into vigorous use. The very worst things are liable to happen at this time of greatest of dangers. Ideals are now in the process of formation, and they may be either high or low."—Briggs and Coffman.

9. Library Lessons. Teach the lessons assigned to the Reading Class, Grade 7, and Grade 8, pages 20 and 21, Lessons on the Use of the School Library.

10. Library reading for seventh and eighth grades. The books are all on the Township Library List of 1916–18.

Alcott. Little women
Baldwin. Abraham Lincoln, a true life
Brooks. True story of George Washington
Baylor. Juan and Juanita
Chaucer. Stories from Chaucer told the children (Kelman)
Clemens. Adventures of Tom Sawyer
Clemens. Travels at home
Dickens. Adventures of Oliver Twist
Dodge. Hans Brinker
Du Chaillu. Land of the long night
Eggleston. Hoosier schoolboy
Forman. Stories of useful inventions
Frost. Knights of the round table
Harris. Uncle Remus
Hawthorne. Wonderbook
Hughes. Tom Brown's school days
Kipling. Captains courageous
Kipling. Jungle book
Lamb. Tales from Shakespeare
Lange. On the trail of the Sioux
Moffet. Careers of danger and daring
Page. Two little confederates
Parton. Captains of industry
Rolt–Wheeler. Boy with the U. S. life savers
Ruskin. King of the Golden River
Riley. The James Whitcomb Riley reader
Slocum. Around the world in the sloop Spray
Stoddard. Guert Ten Eyck
Tomlinson. The young defenders
Velvin. Wild animal celebrities

For suggestions as to outside reading, see articles referred to on page 14, Lessons on the Use of the School Library.

III. TESTS FOR GRADUATION

1. The pupils should read understandingly to others, not only selections from the regular readers, but from other sources.
2. They should read intelligently the textbooks and supplementary textbooks.
3. They should know the resources of the dictionary and have developed the habit of using it when in need of the help it can give.
4. They should have developed pleasing tones and the ability to place the emphasis on any part of a word or sentence.
5. They should have stored in their minds many choice memory gems and at least one good selection for every past school year.
6. They should have become acquainted with, and developed a preference for good literature.
7. They should be able to pass an examination on the principal pieces of literature studied during the past year.
8. They should enjoy reading in some field of good literature.
9. Each pupil should have read at least one-half dozen library books outside of the regular school work during the past year.
10. They should be familiar with the lives and some of the writings of at least six noted American writers.
11. They should be familiar with the current papers and magazines dealing with country life.

IV. REFERENCE FOR TEACHERS

Betts & Hall. Better rural schools. (T)
Briggs & Coffman. Reading in the public schools. (T)
Carney. Country life and the country school. (T)
Charters. Teaching the common branches. (T)
Colby. Literature and life. Houghton
Curtis. Play and recreation for the open country. (T)
Foght. The American rural school. (T)
Hosic. Elementary course in English. University of Chicago Press, Chicago
Kendall & Mirick. How to teach the fundamental subjects. Houghton
Kennedy. Rural life and the rural school. (T)
Klapper. Teaching children to read. (T)
MacClintock. Literature in the elementary school. (T)
McMurray. Handbook of practice for teachers. Macmillan
Patzer. Modern methods of teaching language, Reading, Spelling. H. M. Dixon & Co., Chicago
Reynolds. Suggestions on the teaching of reading. Published by the State Superintendent, Madison, Wis.
Sawyer. Five messages to teachers of primary reading. (T)

SCHOOL LIBRARY

There is no part of the school equipment which is of greater importance than the school library. It represents a phase of education which has vital significance throughout life. When school days are over people, as a rule, have nothing further to do with textbooks. Library books, on the other hand, promote that kind of reading which they will be likely to do when school days are over, if given the proper training while in school.

How to bring about such use of the school library on the part of pupils as will make them intelligent users of printed matter, both for reference and general reading, is one of the most important problems of the school. In view of this fact the State Department of Education at the beginning of the school year 1915-16 distributed to the schools of the state a publication entitled "Lessons on the Use of the School Library." In this publication will be found definite lessons to be given in the various grades and classes of the school course. Teachers should by all means give these lessons or their equivalents. In connection with the various subjects outlined in the present manual, the use that should be made of "Lessons on the Use of the School Library" is indicated. *The work thus outlined is an integral part of the common school course as presented in this manual.*

When pupils have been given any particular lesson from "Lessons on the Use of the School Library," they should thenceforth be held responsible for the practical application of the instruction given so that they will make much use of the library on their own initiative. This will be a potent means of training in the effective use of books and reading.

In order that the library may serve its purpose, it should be in such a condition with regard to organization and care as is described on pages 8 to 12 of "Lessons on the Use of the School Library." Library regulations prepared by the state superintendent, in accordance with the provisions of the law, will be found on pages XIII to XV Township Library List of 1910-11. For purposes of book selection use should be made of the latest List of Books for Township Libraries.

SPELLING

I. GENERAL SUGGESTIONS

1. Taught in reading and language. All spelling for the first four grades will of necessity have to be done in connection with the reading and language classes. The fifth and sixth grades should recite in one class and the seventh and eighth grades in another class. The material for spelling in the first grades should be taken from the daily lessons in reading, geography, arithmetic, and such other subjects as the class is studying. Select, if possible, those words that are in the pupils' written vocabularies. After these are taught take those in the pupils' spoken or lingual vocabularies. From the fifth to the eighth grades, inclusive, the spelling book is to be used in addition to words taken from the subjects other than spelling.

2. Spelling Tablets. Every pupil should have a spelling tablet or notebook for the written work in place of loose sheets of paper. In this should be written in vertical columns all words in the lesson. Have the pupil rewrite the words missed, arranging them alphabetically in the back part of the spelling tablet. To these should be added such words as he often misses in other studies or in common conversation. Use these words occasionally as a lesson for the whole class. This should be done in addition to the review given upon them from day to day.

3. Home List of Words. Encourage children to keep a list of the correct forms of words commonly misspelled by them posted in some conspicuous place in their homes. This list can be easily reviewed, added to, and certain words erased as soon as the correct forms become fixed.

4. Spelling Matches. Frequently have the fifth and sixth grades spell against the seventh and eighth. Occasionally use a first or second reader for the text. About once a month on Friday afternoons, in place of the regular recitations, have the whole school spell down. If a county spelling contest is conducted in your county, do not fail to have your school represented by the best speller at the township contest from which the best speller will go to the county contest.

Secure the Premium Bulletin containing a list of words to be used in the State Fair Spelling Contest. You will need this if your county is organized to take part in the State Fair Contest and, if it is not, the words are good to use as supplementary to the speller. It may be secured by addressing Commissioner C. P. Norgord, Madison, Wis.

5. Mistakes in Spelling. The following are some of the more common causes of errors in spelling:

a. Mispronunciation of word on the part of the teacher;
b. Indistinct or obscure pronunciation by the pupil of the short vowels at the close of syllables;
c. Silent letters or the doubling of letters;
d. The drawing of unwarranted phonetic analogies;
e. The wandering of the attention from the word being spelled or a chance error because of a lapse of the attention.

6. Studies in Spelling. Many valuable investigations or studies have been made recently in an effort to determine the words most commonly used in different sorts of English writing. The most extensive studies that have been attempted were by Rev. J. Knowles, London, England, who took passages from the Bible and noted authors containing 100,000 words. From this list he found 353 words occurring most frequently. R. C. Eldridge, Niagara Falls, from a total vocabulary of 6,002 words found in the Sunday newspapers of Buffalo, selected those most commonly used. Leonard P. Ayers, Russell Sage Foundation, New York, selected the number used most frequently in 2000 short business letters, and W. A. Cook, Denver, Colo. and M. V. O'Shea, Madison, Wis., selected a list from the family correspondence of thirteen adults. In every one of these studies it was found that ten words recur so frequently that they constitute about one-fourth of all words written. They are, written in the order of frequency used, as follows: the, and, of, to, I, a, in, that, you, for.

Leonard P. Ayers, from a tabulation of the frequencies with which all the words occurred, selected 1000 of the commonest words. These, together with their repetitions, constituted nine-tenths of all words used in the studies given. He submitted them to 70,000 children in grades from the second to the eighth, inclusive, in 84 cities throughout the country. From a tabulation of the results received he found the words that were spelled correctly by each grade. With this list of words as a standard, any teacher may determine whether the children in the different grades in her school are up to their grade in spelling as determined by this study. The list may be secured for 5 cents. Address: Leonard P. Ayers, Russell Sage Foundation, New York City. The books giving the results of some of the above studies are given in the reference list for teachers at the close of this subject.

II. COURSE OF STUDY

First and Second Years

The spelling during the first two years should consist of word-building with the simple and compound phonograms. Words built from phonic elements, such as "ack", "ang", and "ight", may be written or spelled orally by the pupils in the reading class. Some of the more simple sight words may be taught but as a rule only words that are phonetically spelled should be attempted. Additional practice in spelling will be given in connection with the written work. Combinations of letters must be taught in this class and it helps both the reading and spelling of the child if both sight and phonic words taken from the reading are used.

Third and Fourth Years

1. Teach spelling. Recent tests have shown that intensive work of a very definite kind should be done in the third and fourth grades. A few words chosen each day from the pupils' other studies should constitute the material for this grade. As a rule not more than eight or ten words requiring study should be assigned daily and half of those should be review words previously given. Many teachers give too many words in each lesson, and too much of the time in the past has been devoted to testing the pupils in place of teaching them. Take time to teach the pupils how to study the words. It is just as important that pupils be taught proper habits of study in spelling, and that teachers teach the subject, as it is in any other one of the school subjects.

2. Distinct pronunciation. In oral spelling the pupil should pronounce every word before attempting to spell, and pronounce it so distinctly that every sound may be heard by the teacher and class. Particular care should be exercised at the close of syllables ending in suppressed vowels. The children should give the full value to every syllable. Much time and annoyance will be saved if this is done. A child who cannot pronounce a word correctly stands little show of spelling it and at the same time slovenly pronunciation is made habitual.

3. Make use of eye, ear and muscular senses. Frequent drills in correct pronunciation and distinct articulation should be given. They are designed to give variety, speed, and interest to the spelling period. In order that they be most effective a multiple sense appeal must be made. Some children are visual minded, some auditory minded, and some motor minded. To meet the conditions of all children the drills must appeal to all three of the powers. We should, therefore, give the child an opportunity to get the word

through the eye, the ear, and the muscular senses. Each method reinforces the other.

4. Secure active attention. In all work in spelling much depends upon the rapidity, vigor and energy put into it. Teachers should pronounce words rapidly, work in a snappy manner and show by their actions a real interest in the subject. Active attention is not secured by a lifeless teacher.

5. Dictionary. Teach the use of the school dictionary in these and all succeeding grades. The abridged form is preferable up to the sixth grade. Teach the lessons indicated for the third and fourth grade spelling classes on pages 16 and 17, Lessons on the Use of the School Library.

6. Methods of assignment

a. First method

(1) The teacher should write words slowly on the blackboard, having children spell by sound as she writes; children pronounce words. Now have them spell by letter, pronouncing each syllable after spelling it, and pronounce the word again. Study the difficulties of the word and concentrate on those parts. Teacher should now give meaning and then erase; children spell again.

(2) After all words have been studied in this way, have pupils spell again. Study the difficult parts of the word and have rapid oral spelling around the class by pupils having difficulty with spelling.

b. Second method

(1) Pupils pass to the board. With backs to the board, face the teacher. Teacher pronounces and a designated pupil spells orally, then all spell orally in concert. At a signal "turn," all face the board and write. Now discuss difficult parts. Every difficult word has one or more critical points. These should be pointed out by the use of colored crayon. A letter or group of letters may be made to stand out prominently by being made larger or by putting them in another color. If necessary develop meaning of the word and have some pupil use it in a sentence.

(2) Continue in this way until all words are written. Now have all study the list for a brief time; erase; dictate the list rapidly again; or, after erasing, have pupils write list from memory.

7. Seat study

a. Pupil studies the word, closes the book or puts hand over the word and spells silently, then compares with the word. Continue until all words are mastered. Close book and spell silently all words possible. If unable to spell many of the words, open the book and, after a short time of study, try again; then write as many words as possible from memory.

b. Have the pupils build all words possible on some common root.

c. Pupils select words from other subjects for the next day's lesson and bring them to class for drill purposes.

8. Methods for the recitation

a. First method. Once a week have a review of all difficult words spelled during the week. Let this review be both oral and written. In the oral test have the class decide at the close who has done the best work in the class during the test. In deciding this, distinct pronunciation as well as correct spelling is to be considered. Place the names of the pupils upon the blackboard and a star opposite the name of the winner in the oral contest. For the written work, have the pupils all pass to the blackboard. Dictate the words rapidly and at the close have pupils move one place to the right and correct the work. Let pupils spell the words aloud in turn around the class and all of them mark the lists of words for mistakes. A record of the best written speller may be kept in the same way as that kept for the best oral speller.

b. Second method. When spelling orally, if a pupil misses a word, have it corrected, then have him step to the blackboard and write it correctly in the presence of the class. Next have him erase the word and spell it orally.

c. Third method. Teach a fable or poem. The next day after calling attention to the difficult words have the children write an original story from it. At the close of the recitation the teacher and children should pick out the words misspelled. Use these for drill.

d. Fourth method (flash method). Write the list of words in a vertical column on the blackboard. Cover them with the roller map. Raise the map showing the lowest word for an instant, then draw map over it. Have first one pupil and then another spell. Treat every word this way in turn. Let the work be rapid. When the pupils become proficient in this, raise the map so as to show two or three words at once. Vary this method by writing the words on cards and exposing them to the view of pupils for only a second or two.

Fifth to Eighth Years.

1. Speller and other sources. The teacher should use some good speller, supplementing it by words selected from subjects studied. Let the pupils select these words as a part of their seat work. The teacher may then add such words as have been omitted by the pupils. They should be trained to scrutinize new words closely with a view of finding and mastering difficulties, and also trained to associate the sound of the word with its meaning. After the words are studied they should be reviewed the next day and the next day, then the next week. This drill-day after day and week after week, by either oral or written work, fixes the word forms. It is the frequency of recall which insures the retention of correct word forms.

2. Dictionary. Teach the lessons assigned to the fifth, sixth, seventh, and eighth grade spelling classes on pages 17, 18, and 19, Lessons on the Use of the School Library.

3. Methods for assignment

a. Read methods for assignment under third and fourth grades.

b. It is frequently necessary to pronounce the words in the new lesson for pupils in the fifth to the eighth grades, and to call attention to the difficult parts in them. It is well for the teacher to spell the word and to pause before and after the difficult part. Illustration: "sep-a-rate", "s-i-eve", "unti-l". However, pupils should be encouraged and required as soon as possible to get the pronunciation from the dictionary. Those words in the speller already known by the pupils should be discarded and attention directed only to those giving difficulty.

4. Methods for the written recitation

a. Method one.

(1) See third and fourth grades.

(2) Teacher pronounces rapidly and pupils write.

(3) Pupils exchange papers.

(4) One pupil spells the words, syllabicating and pronouncing syllables, if pupils are in the habit of running syllables together in pronouncing or spelling. It is a good plan at least once a week to have all words in the lesson syllabicated and syllables pronounced. All mark papers on scale of 100. Papers returned to owners.

(5) Words misspelled are written correctly at bottom of spelling blank.

(6) Teacher collects the papers and takes the record of the class.

b. Method two. Vary method 1, No. 4, by calling upon different pupils to spell. Another variation may be made by having the teacher spell the words in place of the pupils.

c. Method three

(1) One pupil pronounces the words and all others write.

(2) After one pupil has pronounced for a few days, have another and then another. The pupil pronouncing must pronounce distinctly so as to be heard by all members of the class.

d. Method four

(1) Pupils close books and then write from memory all words possible in the lesson.

(2) Occasionally have each pupil write from memory, as far as he can recall, all words missed by him during the last week or month.

e. Method five

(1) One day each week review all words missed during the week.

(2) Let two pupils choose sides in a written contest on all words missed during a certain time.

5. Methods for the oral recitation

a. Method one

(1) The first day of school the pupils are all assembled in a straight line at one side or in the front of the room.

(2) Teacher pronounces the word once only. If the pupil misspells it, it is pronounced to the next; if he misses it, to the next and so on until it is correctly spelled.

(3) The pupil spelling it correctly passes above all those missing it.

(4) If the pupil at the foot of the class misses the word and it is spelled by the one at the head of the class, the one at the head simply holds his place.

(5) The pupil standing at the head of the class at the close of the recitation secures a headmark. This pupil now passes to the foot of the class for tomorrow's recitation.

(6) Headmarks are kept, showing the number of times each pupil leaves off at the head, for at least six weeks, when all are erased and the contest is renewed. Let pupils choose the color of crayon or pencil to be used in keeping headmarks.

b. Method two. Vary method 1, No. 2. In place of the teacher pronouncing the word to the next pupil after it has been misspelled, she says "wrong". The next pupil then spells it without the teacher pronouncing.

c. Method three. Vary method 1, No. 2. After a word has been pronounced by the teacher and spelled by the pupil, either correctly or incorrectly, the teacher should pronounce the next word. If the word previously pronounced was misspelled by the pupil, the next pupil may spell it corectly and pass above him in place of spelling the word pronounced to him. The teacher will now pronounce the word to the next pupil. A word missed may be spelled by any pupil who noticed the mistake and he may then pass above all who did not notice it and the one missing it.

d. Method four. Vary method 1, No. 4. If the pupil at the foot of the class, together with several near him, miss a word, the one at the head of the class may spell it correctly, leave off at the head and pass above all those missing it. By this method it is possible for several to leave off at the head during one recitation.

e. Method five. Combine methods two and three. More interest may be secured if each method is continued for about two months and then another one is used in place of it.

Any of these methods, especially the last three, demand close attention to the spelling of every word and in all of them the pupils must speak clearly and distinctly or the end is defeated. Pupils are often given opportunities of remembering for some time words misspelled and not noticed by other pupils. This not only impresses the word upon the mind but makes all members of the class alert and attentive. Only poor results can be obtained by teachers pronouncing the words promiscuously around the class.

6. Written and oral spelling. Each method of spelling has its advocates and each has its advantages over the other. Both oral and written should be used by the teacher as the use of both tends to secure results not obtained by the use of either alone. Some of the advantages and disadvantages of each are as follows:

a. Advantages of written spelling

(1) Written spelling emphasizes the use of the word as it is used in everyday life.
(2) The muscular activity tends to fix the word in the pupil's mind.
(3) Many pupils are eye minded and the written form appeals to the eye.
(4) The teacher is assured all students in the class have spelled every word.

b. Disadvantages of written spelling

(1) The words as used in everyday life are not written in columns but are associated with other words. To do this necessitates the writing of many words already known and takes too much time.
(2) Many fewer words can be written than can be spelled orally in the same time. If good attention is secured, all words are spelled in thought by all pupils in oral spelling as well as in written.
(3) More opportunity is given for cheating.
(4) In an effort to spell correctly the handwriting is neglected and often spoiled.

c. Advantages of oral spelling

(1) Many people are ear-minded.
(2) Much more spelling can be accomplished in a given time.
(3) Competition between pupils is more pronounced.
(4) Opportunities for correct pronunciation and distinct articulation are made possible.
(5) Oral spelling helps to secure correct pronunciation and articulation.

d. Disadvantages of oral spelling

(1) We do not use oral spelling in life.
(2) Some people are motor and eye minded.
(3) Pupils cannot correct mistakes to as good advantage.
(4) If headmarks are given the poor students are discouraged.

7. Rules for spelling. Rules for spelling have so many exceptions that they are often as much a hindrance as a help to good spelling. It is better to learn to spell so well that the rules are unnecessary. They are sometimes taught without the proper application of them being made. It is the conscious application of the rule to a large number of words that is important. No rule is of any value unless the pupils consciously apply it to many words and these words are reviewed and reviewed until the application is fixed. If taught at all they should come early in the child's school life. The following have some value:

a. Final y, when preceded by a consonant, is generally changed to ie when a letter or syllable is added. Ex.: fly, flies; hurry, hurries

b. Final y, when preceded by a vowel, generally remains unchanged when a letter or syllable is added. Ex.: valley, valleys, obey, obeys.

c. In derivatives formed from words ending in ie, by adding the termination "ing," the e is usually dropped and the i changed to y. Ex.: die, dying; tie, tying.

d. Exceed, succeed and proceed are the only words in the English language ending in "ceed." Supersede is the only word ending in "sede." All other "seeds" end in "cede."

III. TESTS FOR GRADUATION

1. Pupils should be able to spell all strictly phonetic words.

2. They should be able to find a word quickly in the dictionary and to learn therefrom how to spell and pronounce it correctly; and they should be in the habit of consulting the dictionary for this purpose whenever necessary.

3. They should know the great divisions of the dictionary and, in general what each contains.

4. They should be able to make the application of all rules taught to words in common use.

5. They should be able to earn a standing of 96 per cent on the following list:

sometimes, declare, engage, final, terrible, surprise, period, addition, employ, property, select, connection, firm, region, convict, private, command, debate, crowd, factory, publish, represent, term, section, relative, progress, entire, president, measure, famous, serve, estate, remember, either, effort, important, due, include, running, allow, position, field, ledge, claim, primary, result, Saturday, appoint, information, whom, arrest, themselves, special, women, present, action, justice, gentleman, enclose, await, suppose, wonderful, direction, forward, although, prompt, attempt, whose, statement, perhaps, their, imprison, written, arrange.

6. They should be able to earn a standing of 84 per cent on the following list:

meant, earliest, whether, distinguish, consideration, colonies, assure, relief, occupy, probably, foreign, expense, responsible, beginning, application, difficulty, scene, finally, develop, circumstance, issue, material, suggest, mere, senate, receive, respectfully, agreement, unfortunate, majority, elaborate, citizen, necessary, divide.

These lists are taken from the monograph by Leonard P. Ayres on the "Measuring Scale for Ability in Spelling".

IV. REFERENCES

1. References for pupils

The list of drill words in spelling for the home county, if one is published by the county superintendent.

The list published by the State Board of Agriculture containing words to be used in the State Fair Spelling Contest, C. P. Norgord, Madison, Wis.

Webster's elementary school dictionary. Amer. Bk. Co.
Webster's secondary dictionary. Amer. Bk. Co.
High school standard dictionary. Funk & Wagnalls Co., N. Y.
Webster's new international dictionary (for sixth, seventh, and eighth grades.) G. & C. Merriam Co., Springfield, Mass.

2. References for teachers

Ayres. A measuring scale for abil'ty in spelling. Russell Sage Foundation, N. Y. City
Buckingham. Spelling ability, its measurement and distribution. Teachers' College, Columbia University, N. Y. City.
Charters. Teaching the common branches. (T)
Cook & O'Shea. The child and his spelling. Bobbs.
Jones. Concrete investigation of the material of English spelling. W. F. Jones, Vermillion, S. D. i
Kendall & Mirick. How to teach the fundamental subjects. Houghton
Klapper. The teaching of English. (T)
Rice. Lessons on the use of the school library. Issued by the State Superintendent, Madison, Wis.
Wallin. Spelling efficiency. Warwick & York. Baltimore, Md.
New standard dictionary. Funk & Wagnalls Co., N. Y. City.
Webster's new international dictionary. G. & C. Merriam Co., Springfield, Mass.

LANGUAGE

I. GENERAL SUGGESTIONS

1. Functions of language. Language has two functions, both of which should be kept constantly in mind by the teacher. It is (a) an instrument of thought and it is (b) a means of communication. The first is as important as the second. In a discussion of this subject John Dewey mentions "*language as a tool of thinking*", and James F. Hosic in his book "The Elementary Course in English" says that "*mental activity* is largely conditioned by *language*".

When a teacher realizes fully that *the pupil's ability to think* depends upon his language equipment, the methods used in teaching will be somewhat modified and the importance of the subject itself will assume a new significance. It has been generally assumed by teachers that language is taught in order that pupils may be able to express their thoughts. With the fuller conception of the truth we shall teach language primarily to give the children the power to think. With this power of thought developed the power of expression will more naturally follow.

We cannot think without language. The more words a person has in his vocabulary and the more precise and definite the meanings of these words are, the better that person is able to think. An experience that is quite common will illustrate this point. A speaker or a writer discusses a question in which you are interested and on which you have been doing some thinking. A certain phrase or sentence impresses you as setting forth in clear and forceful language a thought that you have had for some time but which in your mind has been somewhat hazy and indefinite. You make note of his words. Perhaps you memorize his statements. You say, "That is just what I have had in my mind but I have never been able to express it in words." The writer or speaker in this case has helped you not only to express your thought but has helped you in your *thinking*. You were in need of *language*, a more adequate vocabulary in order to continue your thought process.

The child then, needs language, first of all to aid him in his thinking. For this reason the material that we select for language exercises should be rich in thought content. Empty words, phrases, and unrelated statements are of little value for language purposes. Furthermore, it should be kept in mind constantly that the language

material must be full of thought content *for the child.* The school too often makes a mistake in selecting materal in which the adult thinks the child *ought* to be interested, thus violating one of the most fundamental principles of education.

The great opportunity of the teacher in the language work of the school is, therefore, to bring before the child in conversation, story, or by other means, language material that will help him in developing the powers of his mind, especially the power of thinking. With the mental powers active and growing, expression will follow. This expression can then be modified by practice to conform to the usage of good writers and speakers.

The functions of language as set forth above should be impressed upon the minds of students in institutions where teachers are trained. An excellent discussion is given in Dewey's "How to Think", p. 170–87.

2. Motives. The success of language teaching depends to a great extent upon the motive the children have for learning the subject.

The following suggestions may be helpful to teachers:

a Organize a literary society or a club in school to meet weekly or by-weekly on Friday afternoons after recess. The same suggestion is made in connection with the course of study in civics. Such a society impresses upon the children the value of knowing how to speak and write well. Besides, the programs prepared by the children for these meetings have a distinct language value in themselves.

b Have the children participate in special programs to which patrons are invited. This gives them a special incentive for doing their language work well.

c Encourage the children to write to their friends and discuss with the pupils topics that would make profitable correspondence. Let them write letters to real persons and send them.

d Suggest to the children that they recite the poems, tell the stories, play the language games and sing the songs at home which they learn at school. Make a special effort to have them do the work well. We do not appreciate the happiness that the school can contribute to the home by encouraging the children to show the progress they are making.

e The children may, in connection with their literary society, edit a "school paper" consisting of news items and short compositions. In this way even short rhymes modeled after well-known poems may be written. If properly managed this undertaking does much to encourage originality among the children. The teacher must, of course look over the items to see that no abuse is made of the practice.

f Keeping a diary gives a pupil some good practice, especially if his enthusiasm is aroused by reading an interesting diary like Louisa Alcott's Journal.

g In a few schools it is a practice to publish occasionally some of the pupils' compositions in local papers. This is worthy of more general adoption.

h Neat booklets containing compositions (sometimes illustrated) may be made. The topics may be historical, geographical, civic, etc. In this work there is opportunity to cultivate in the children initiative and originality. This work, however, must not be overdone and care must be taken that the compositions do not get to be mere copies of cyclopedic articles. This written work should not be taken up until oral work has been done and an outline made for the composition.

i In every possible way cultivate in the children a desire to use good language. The teacher's example has a great influence upon the children's attitude toward the use of proper language. A teacher who uses "meaningless slang or silly superlatives" cannot expect to have the pupils use good English. On the other hand, a teacher who is careful in the use of words and who is constantly working to enlarge and enrich the children's vocabularies will find that as a result of such efforts the children take a pride in using correct and proper expressions.

j Some of the regular written work should be preserved in order that children may note the progress they are making. If this work is examined by the county superintendent and the supervising teacher it will be an incentive for the children to do their best.

3. Correlation. The language work of the school must be correlated with the other school subjects. This correlation is two-fold: a. The other subjects, including their applications in everyday affairs, must be drawn upon for language material; b. The powers of thought and expression gained in the language class must be applied in the other subjects and in everyday life. Every recitation should be an exercise in language.

4. Oral language work should predominate in the elementary school. When we consider the ratio that talking bears to writing in life we realize the necessity of giving a much greater share of the time and attention in school to the cultivation of the powers of oral expression. The ability to converse intelligently and pleasingly, to tell a story entertainingly, and to use choice language naturally, are accomplishments which are results of careful training and persistent practice in oral composition.

5. Written work. Many schools require too much written work in the different subjects as well as in the regular language class. Three evil results follow such a practice: a. The work is carelessly done and the children form bad habits; b. The pupils form a dislike for the work itself; c. The teachers are overloaded with work.

Oral composition should be the foundation for written composition. Oral composition bears the same relation to written composition that oral arithmetic bears to written arithmetic.

6. Language habits. Correct usage of language is due to habit. If a child uses an incorrect expression it is because he has acquired a bad language habit. To help him we must proceed in the same way that we would proceed to break up any other habit. The correct form must be presented (the reason for such form need not necessarily be understood) and then sufficient practice must be given to fix it. To introduce these corrections by means of games and plays is one of the most effective methods of establishing the right expressions. It is not enough merely to have the child learn what the correct form is.

Drill on correct forms may also be given to prevent the formation of bad language habits.

The work that should be done in correcting errors in speech may vary in different communities. The errors noted in this course are quite common everywhere and will need to be given attention in all communities. Other forms may need attention in particular locaiities.

In this course of study drills on certain forms have been suggested for each class. Review should also be given of the work of all previous classes.

In some cases it may be possible to secure the cooperation of the homes in establishing correct expressions. This must be done very judiciously and tactfully. Children may be trained to correct one another's errors, and thus bring about a cooperation that is helpful. Children should be cautioned against correcting the errors of speech made by their elders, unless the elders themselves take the initiative and request the children to do so.

7. Phases which need constant attention. Correct pronunciation, distinct enunciation, accurate spelling, and careful punctuation are phases of language work that should always be given attention.

8. Tests of a good language textbook. The Course of Study here presented is not designed to be so complete as to make the use of a good language text unnecessary.

"Among all the sources of stimulus the good teacher and the good book take superlative rank." The teacher must keep close watch of the progress of her pupils and not simply teach a textbook no matter how good it is. Some of the questions that a teacher should be able to answer in the affirmative regarding a language book which she selects for use, after critically examining a number of language books, are the following:

a. Does it use really significant topics chosen from geography, history and nature study to promote growth in language power?

b. Does the author encourage intelligent imitation of good models as the way *par excellence* to acquire ability to write?

c. Are there lessons provided for considerable and varied practice on correct forms of pronouns, verbs, adverbs, prepositions, etc.? Is there enough repetition suggested?

d. Does the book utilize and enlarge the common experiences of children?

e. Does it emphasize vocabulary work?

f. Does it give a series of well organized lessons on friendship and business letters, invitations, acceptances, etc.?

g. Does it stimulate desire for expression by containing carefully planned and attractive conversational lessons?

h. Does it contain dictation exercises based largely on previous work, which illustrate excellent sentence structure? Moreover, do these dictation exercises call upon pupils to apply their knowledge of punctuation, capitalization, margining, correct placing, etc., etc.?

i. Does the author appreciate that we should not "skirmish around the outposts" of grammar in the intermediate grades, but that we should wait at least until the last year of the elemenary school to "boldly attack and conquer it"?

j. Does the author present, both by his preface and by the detailed plan of his book, evidence that he has learned by experience with children, as well as by his educational equipment for the task, how to compile a language book? Does he know how to helpfully guide children by enriching their language, directing their sympathies, extending the range of their interests, and inciting their teachers to recognize the rich abundance of language material which lies on every hand?

There are such language books published. Some of them are already in the hands of children. Many children not so fortunate as to have an excellent language book in their own hands are yet fortunate enough to have teachers who have two or three desk copies of good language books which they make much use of in planning their language work.

However, the children should have in their own possession good language books and teachers should not rest satisfied until pupils have the benefit of the best recent thought embodied in the making of language texts.

9. County uniformity. There are some excellent reasons for having a minimum list of uniform stories, poems and pictures to be studied throughout any county:

a. Teachers can frequently use them for purposes of illustration, review, comparison, etc.

b. Children will gradually come to the conviction that there is a canon of poetry, literature, and pictures, which is a part of the inheritance of every child.

c. Teachers will not then tell children in one grade a story or teach them a poem as if it were new to them, and then find out that these same children learned the poem or told the story in a previous grade.

d. The questions asked in diploma examinations in language and reading will become more specific. "Teaching is never any more specific and definite than the tests by which it is measured."

e. Students who are preparing to become rural-school teachers, whether in County Training Schools, High School Training Depart-

ments, or Rural Departments of Normal Schools, may be prepared definitely to do well the work they will be expected to do.

10. Library reading. An exceedingly important phase of the language work is to interest the children in the library books. Perhaps no other factor will enrich a persons vocabulary and thus develop the thought powers as much as the reading of good books. Such reading also influences a person's style of speaking and writing.

11. Use of the dictionary. Special lessons showing how the children may be taught to use the dictionary in connection with their language and grammar work are given in the pamphlet "Lessons on the Use of the School Library", p. 33–43.

II. COURSE OF STUDY

First and Second Years

Since the children of the first and second years will constitute one group in the country school, the work for this group is given as one unit.

1. Oral work

a. Conversational exercises in which the teacher talks with the children about their experiences and observations. The topics that may be taken up may vary depending upon the environment and the things in which the children are interested. Among the topics which may be appropriate are stories about their pets and the animals on the farm; incidents of everyday life that have happened as, "Our trip on the Fourth of July"; interesting things in nature, such as flowers, birds, and insects, work they do at home to help their parents; pictures that appeal to children (see following list); etc. The subject should be one concerning which the children will desire both to give and receive information. These exercises should not be conducted like "recitations", with the teacher asking questions and the children answering. The teacher should be as one of the group, contributing and directing, but continually drawing out the children's power of expression. To prevent the exercise from degenerating into aimless talk the teacher should decide what the purpose of the lesson is to be, such as increasing the children's vocabulary, making their vocabulary more precise, creating a love for nature or art, etc. The emotional phase should be kept in mind as well as the intellectual.

b. Picture study. The following pictures are suggested for this class:

(1) Fall

Can't you talk.....Holmes
The pet bird.....Von Bremen
Piper and nut crackers.....Landseer
Four little scamps.....Adams
The escaped cow.....Dupre

(2) Winter
The Nativity.....LeRolle
Madonna (teacher's choice).....
Family cares.....Barnes
Baby Stuart.....Van Dyck

(3) Spring
Primary school in Brittany.....Geoffrey
The churning.....Millet
Saved .....Landseer
At the watering trough.....Dagnan–Bouveret
Miss Bowles.....Reynolds
Feeding the birds.....Millet

c. Reproductions of stories told to the children by the teacher. The material for this work is to be found in fables, folk-lore, fairy tales, hero tales from history and stories relating to the great celebrations such as Thanksgiving, Christmas, Washington's and Lincoln's birthdays, Memorial Day and the Fourth of July. As the stories grow in length train the children to observe the time sequence. Begin early work against the practice of stringing several sentences together with *and*. Show children how statements may be combined and how other connectives may be used, such as *after a while*, *before long*, *soon*, etc. Train the children early to stand properly while talking to the class and to assume an easy position. Do not let children form incorrect habits of position. Also give attention to the voice and endeavor to have the children cultivate pleasing tones in their speech. The teacher's example is of great importance in this respect. After a child has learned to tell a story well he may be asked to tell it at some special program or occasion. The following stories are adapted to the pupils in this class:

Cinderella. Heart of Oak, book 2
Little Red Riding Hood. Fables and Folk Stories—Scudder
The Three Bears. Heart of Oak, book 2
The Three Pigs. First Reader—Treadwell and Frees
The Old Woman and Her Pig. Heart of Oak, book 1
Henny Penny. Heart of Oak, book 1
Little Half Chick. First Reader—Free and Treadwell
Beauty and the Beast. Fables and Folk Stories—Scudder
The Gingerbread Boy. How to Tell Stories—Bryant
The Wind and the Sun. For the Children's Hour—Bailey and Lewis
The Fox and the Grapes. Fables and Folk Stories—Scudder
The Dog and His Shadow. Fables and Folk Stories—Scudder
The Fox and the Crow. Heart of Oak, Book 2
The Ugly Duckling (Andersen)
The Elves and the Shoemaker (Grimm). For the Children's Hour
The Straw, the Coal and the Bean (Grimm). For the Children's Hour
Goody Two Shoes. Heart of Oak, Book 2
The Pig Brothers. How to Tell Stories—Bryant
The Sailor Man. How to Tell Stories—Bryant

It is suggested that each county superintendent with the aid of the supervising teacher and the instructors in the institution training country teachers add a supplementary list for his county. Each

teacher should leave at the close of the year a record of the stories used for each class during the year, so that the teacher coming into the school the next year may know what work has been done. (See also pp. 221–222.)

d. Dramatization of some of the stories told by the children. This exercise is especially valuable in cultivating naturalness of expression. It is also helpful in getting the diffident to take part in the exercise. The teacher should as far as possible, train the children to take the initiative in this matter and suggest "how this story can be acted out". The stories for dramatization should not be long and it may be possible in some cases to divide the story into parts and dramatize the part that lends itself most easily to dramatization.

e. Study of poems, committing them to memory and reciting them on some special occasion. See list of poems given for the first two years in "Selections for Study and Memorizing", (or any other collection found in the school). It is recommended that the school secure a copy of this volume if it is not in the school library.

f. Enlargement of the children's vocabularies with an increasing power to use words with understanding and precision. In each of the four language exercises given above there should be a constant effort to add new words and phrases to the child's language stock. Every new word learned adds to the child's thought power as well as to his power of expression. See suggestions given on p. 65–67.

g. Complete statements. As early as possible the children should be trained to speak in complete statements when telling stories or relating incidents, and in any oral work when complete sentences should be used. When the teacher desires a child to answer in a complete statement the question should be so framed that a phrase or a clause will not be a reply to the question. It is a mistake, however, to demand a complete statement when the occasion does not require it.

2. Written work

a. Tracing. The pupils should observe the teacher while she writes on the board in large round script words that they have learned in their lessons. They trace "in the air" the words the teacher has written, then copy on the board the words they have traced. When work on paper begins the children should write in large characters. The teacher should try to implant correct images of the letters and words in the minds of the children. Care should be taken in these early exercises to see that the children learn the arm movement and not the finger movement in writing.

b. Copying from the board sentences used in the reading lessons.

c. Copying sentences composed by the children and written on the blackboard by the teacher.

d. Teach the use of capitals at the beginning and periods at the end of sentences, incidentally in connection with the foregoing work.

The above work will very likely be done in connection with their reading work and the beginners will be in a group by themselves. When the teacher desires to do special written work with the advanced pupils in the primary language class, the beginners may be given seat work.

e. Dictation work may be introduced by the "look and write" method. The teacher shows the word or short sentence, then has the children write it from their mental picture.

f. Writing from dictation easy statements after the children know the spelling of the words used. Introduce contractions and abbreviations as they are mastered just as new words are introduced but do not bring in forms not met with in their reading material.

g. Call attention to the uses of capital letters in their reading lessons and have the children apply this knowledge in sentences written from dictation. These uses will probably include the following:

(1) The first word of a sentence.
(2) Names of persons, places, days of the week and months of the year.
(3) The words I and O.
(4) The first word of a line of poetry.

h. Teach punctuation marks that pupils have occasion to use in their dictation work.

i. Children may be helped in writing from dictation lines of poetry by placing on the board forms like the following, showing arrangement of lines and punctuation marks they have not learned the use for:

_____,
_____;
_____,
_____

j. Compose and write simple sentences on some of the work done in school, or on some personal observation or experience of the children in school or at home.

k. Composite stories, i. e., reproduction of short stories for which pupils contribute sentences. The sentences should be written on the board and worked over by teacher and pupils together. The revised and improved sentences should be read by the pupils and then copied by them on paper.

The work indicated in j and k should be kept very simple and should not be done more than once or twice a week. Be sure that sufficient oral work precedes this written work.

3. Lessons on the mechanics of language

Give exercises to teach the following:

a. Use of *a* and *an*. Have pupils read and speak sentences like the following: The wind has blown an apple to the ground. Little Boy Blue has an orange. May I have an acorn? There is an egg in the robin's nest. Hiawatha had a bow and an arrow.

b. Use of *is* and *are; was* and *were*. The boy is here. The boys are here. There is a man in the road. There are three men in the road. There was a fire last night. There were two fires last night. There were no bones in Mother Hubbard's cupboard. There were three kittens with soiled mittens.

c. The correct forms of pronouns after *is, are was* and *were*.

Conversation lessons should be arranged between pupil and classmates or teacher, calling for the correct use of these forms:

Is that you, John? Yes, it is I.

An excellent way to drill the children in the use of these expressions is through some games in which children are required to use these forms in their questions or answers. The correction of errors through play exercises and games is an effective way of breaking up bad language habits because the correct forms almost unconsciously work themselves into the vocabularies of the children, thus replacing the incorrect forms. This is especially true if the children are young. A book containing suggestive games for the correction of errors is "Language through Plays and Games", by Deming, published by the Berkley-Cardy Co., Chicago.

d. The correct use of *may* and *can*. Discuss with the children the *meaning* of these two words. The substitution of *can* for *may* is the only possible error and this can be corrected easily by calling the children's attention to the error when they make it.

e. The correct use of *saw, seen, did* and *done*. The verbs *see* and *do* are used much by children and it is important that the correct forms should be learned early. The amount of practice that is needed depends upon the extent to which children err in the use of these forms. Games may be used for drill work. Ordinary class conversation in which children answer questions like, "What did you see?" "What have you done to-day?" etc., can be carried on for a few minutes every day. Put life into these drills. Conduct them as you would exercises in mental arithmetic.

f. The use of *am. not, is not*, etc. for *aint*. The use of the form *aint* is common among children and definite plans should be made early to eradicate it from the children's vocabularies. Have children give numerous sentences beginning with *I am not, It is not, She is not, They are not, Are they not, Is he not*, etc. Using the exercise suggested in e. above spend a few minutes of the language period asking questions like the following: Are you cold? Are you tired? Is he going? To these the children reply: No, I am not cold, etc.

It is difficult to designate definitely just what errors should be corrected the first two years of school and which ones should be left for later years. It may be that others should be included in

the above list. Teachers should use every opportunity to have children form correct language habits early. The above expressions should be drilled upon thoroughly so that when the children finish the work outlined for the first two years they will use the correct expressions just as easily as they give the sums in the forty-five combinations in arithmetic.

It is a good practice to keep before the pupils in a conspicuous place in the room the correct language forms on which special work is being done:

I saw	I am not	He is not	May I

Too great stress cannot be laid upon the importance of drills in the mechanics of language. Besides, the work can be exceedingly interesting and it is possible to develop as much enthusiasm over it as over the work in arithmetic.

Third and Fourth Years

In the country school the pupils in the second language group will usually include the children who are in the third and fourth years. In general the work done by this class is a continuation of what was done in the preceding class. Promotion should come with ability to use language. Pupils should be made to feel that in each class there is a definite amount of work to be done—a certain degree of ability to be attained. Call attention of the pupils themselves to the progress they are making. Mention from time to time definite things they have accomplished. Have the pupils note that now every member can get up before the class and tell a story well without any help, while a month ago he thought it was impossible. Especially call the attention of the class to the progress made in the elimination of errors. Now no one in the class uses *aint* while last fall every one used it. Children become enthusiastic when they know they are making definite progress. With the right spirit permeating the language work great progress can be made and the results will be noticeable in every school subject.

The character of the work that can be done depends much upon the language training the children have had outside of school and the amount of reading they are doing in and out of school. With some classes much more drill is necessary than with others. Teachers should not advance the pupils faster than they can do the work well. Mastery gives pleasure.

1. Oral work

a. Conversations about their observations and personal experiences continued. Material for these conversations will be obtained chiefly from the work in geography and nature study. There

is no special class in geography for the pupils in this group but the work outlined for the fourth year in geography is to be done in the language class. It may be necessary in some of the work to section the class, giving the younger pupils seat work while those who are more advanced take up phases of the geography work that may be too difficult for the younger ones.

The conversational exercises now should develop into the regular recitation in which the children are taught in an elementary way to talk on topics. This work of course must still be very simple and the freedom that characterizes the conversational exercise should not be abandoned. Make use of the suggestive material given in the language books.

Much excellent material for this class is found in the outline in third and fourth year geography.

b. Picture study continued. Remember that while pictures are used for conversational exercises, the great purpose should be to instill into the minds of the children a love for the pictures themselves and to give them a desire to know more about them. The picture study in the language class should lead to greater interest in pictures used in readers and other textbooks, library books, etc. (See also p. 23.)

The following pictures are suggested for study in this class:

(1) Fall

Don Balthazar Carlos.....Velasquez
The little nurse.....Von Bremen
Shoeing the horse.....Landseer
Pilgrims going to church.....Boughton
Departure of the Mayflower.....Bayes
Landing of the Pilgrims.....Rothermel
The gleaners.....Millet
Melon eaters.....Murillo
Caritas .....Thayer

(2) Winter

Christmas chimes.....Blashfield
The sheep.....Millet
Two mothers and their families.....Gardner
Washington crossing the Delaware.....Leutze

(3) Spring

The strawberry girl.....Reynolds
Who'll buy a rabbit?.....Von Bremen
The village blacksmith.....Taylor
Alice .....Chase
Young sculptor.....Angelo

c. Story telling continued. Have pupils review the stories learned in the primary class, especially those that have a bearing upon history, such as The Pilgrims, Washington, Lincoln, etc. The pupils in this group do not have a separate history class but the work outlined for them in the history course should be used as material for the regular language class.

As the pupils gain in power of thought and expression longer stories may be used and outlines worked out with the pupils to aid them in getting the proper sequence. The following list of stories is appropriate for this group, and it is suggested that each county superintendent with the aid of the teachers in the training institution and the supervising teacher supplement the list for his county:

Androclus and the Lion. Fifty Stories—Baldwin
Why the Sea is Salt. How to Tell Stories—Bryant
Snow White and Rose Red (Grimm.) German Household Tales
Little One Eye, Two Eyes, Three Eyes (Grimm). First Reader
The Bremen Town Musicians. First Reader—Free and Treadwell
The Bell of Atri. Fifty Famous Stories—Baldwin
The Legend of St. Christopher. For the Children's Hour—Bailey
Epaminodas. Stories to Tell to Children—Bryant.
Little Daylight. How to Tell Stories—Bryant.
Country Mouse and City Mouse. Fables and Folk Stories—Scudder
Three Billy Goats Gruff. Primer—Free and Treadwell
Billy Beg and his Bull. How to Tell Stories—Bryant
The Elephant Child. Just So Stories—Kipling
Aladdin. Arabian Nights
Sinbad the Sailor. Arabian Nights
The Armor of Achilles. Achilles and Hector—Gale
The Wooden Horse. Achilles and Hector—Gale
Ulysses and the Bag of Winds. Adventures of Ulysses—Lamb
Ulysses and Polyphemus—Adventures of Ulysses—Lamb
Arachne and the Weaver. Old Greek Stories—Baldwin.
Baucis and Philemon. The Children's Hour—Bailey
Webster and the Woodchuck. Fifty Famous Stories—Baldwin
Margaret of New Orleans. How to Tell Stories—Bryant
Alfred and the Cakes. Fifty Famous Stories—Baldwin
The Little Hero of Haarlem. How to Tell Stories—Bryant
The Constant Tin Soldier (Andersen). For the Children's Hour—Bailey

In addition to the stories given above the following biographies should be taken up selecting the portions that are appropriate to children of this age: Columbus, John Smith, Miles Standish, Franklin, Washington, Lincoln. If time permits the stories of Joseph, Moses, and David may be taken up. The lives of all these men appeal to children of this age and a study of them lays a strong foundation for future history work.

d. Poems studied, committed to memory, and some of them recited on special occasions. See "Selections for Study and Memorizing," for suggestive list.

e. Dramatization of stories and poems continued.

f. Vocabulary work. In all the work of the school lay special stress upon having children become observant of words as they meet new ones. A few new words may be placed upon the board and kept there, the teacher and children introducing them into their conversation as a part of the language work. In this way the pupils may be made conscious of their growth in language and thought power. At the end of a month they may be asked to make

a list of perhaps twenty words that they have consciously learned to use during the month. In the reading class and in their general reading of books in the library they should also be taught to notice apt words and forceful phrases. See the article on Vocabulary Work, p. 87.

2. Written work. During the first two years and even in the third year the written composition work is almost a negligible quantity. The children are struggling to master the mechanical phases of the work, especially the penmanship and the spelling. This work should not be hurried, as it is far more important to lay all possible stress upon the oral exercises.

a. Joint composition. When the children have reproduced a short story well orally, or when they have taken part freely in discussing an experience which all have shared, they are ready to dictate it to the teacher who acts as the secretary of the class. Often a sentence will not suit the class as a whole when it is first given, so two or three pupils may have to attempt giving it, before the pupil critics are satisfied. When the story is finished it is a joint product and, as such, pupils are proud of it. Let the pupils copy it and make the copy as perfect as the secretary made hers. This copying will fix the spelling and punctuation, will acquaint children with good sentence structure, and will make it possible for the children to write the story from memory a little later.

b. Long compositions to be avoided. Pupils have little trouble in reproducing short stories as wholes. It is not so easy to reproduce "The Three Bears" and "The Gingerbread Boy" in writing. No children in the primary class and probably not any in the intermediate classes should reproduce the whole of a story the telling of which takes five minutes of time. Instead have them write what happened to "The Gingerbread Boy" after he saw the fox; or write "The Three Bears" as far as the incident of the discovery of the bowl of soup, etc. All the time we have in mind that some day the pupils are to write original compositions—only a few lines long at first—but accounts of their own experiences. This is perhaps the time to emphasize the great necessity of having the children able to do orally any piece of work before we ask them to write it. Ten year old children sitting with pens in hand wondering what to write, have not been well prepared for the written work.

Encourage freedom and originality in the work. *Do not work for long compositions.*

c. Apostrophe. Teach the use of the apostrophe to show ownership when the name of the owner is in the *singular* number. Emphasize the fact that the apostrophe is not used in the possessive of any pronoun, such as its, yours, etc. Examine lessons in the reader to find illustrations for this use and have them copied.

d. Dictation exercises should be continued to fix the use of capital letters, the punctuation marks learned, abbreviations and

contractions needed in their written work, and homonyms studied. Teach the proper division of words at the end of lines. Also call attention to margins and indentations.

e. Writing from memory stanzas of poetry. Do not have children write a poem until they can recite it well. The poet's first word for every line must be also the first word the child writes at the beginning of a line. If the poet's first line has ten words in it and the child has room for only seven, he is allowed to write the remaining three on the line below but he must not begin the second line of the poem at the middle; it must stand as his third line. For a time a diagram like the one given on p. 45 may be helpful.

f. Quotation marks. The use of quotation marks should be taught in this class. Have children observe the use of quotation marks in their reading lessons, and copy sentences containing them. Then give them dictation work in which quotations occur. Sometimes omit the marks in a blackboard assignment and see if the children can insert them.

g. Letter writing should be begun in this class. In developing the subject first discuss the parts of a letter with the children and call attention to the form. Do this with models before the class. Then have the pupils copy letters just as they copy other written exercises. As a third step have them write letters from dictation. The mechanics of a letter should be drilled upon and mastered so thoroughly that children habitually use correct forms. Language books contain model letters.

Much of the written work can be thrown into the letter form. Letters written by the pupils in this class should be short.

3. Lessons in the mechanics of language

a. Review the work done by the pupils while they were in the previous class. Give special drill and practice on forms that need attention. Do not stop practice until the correct form is permanently fixed by habit.

b. Homonyms. Teach spelling and use of the following homonyms: sail, sale; their, there; to, too, two; no, know; new, knew; week, weak; hear, here. Add others that children may need in their written work. In teaching homonyms do not teach the two forms at the same time. Teach one form and drill on it until it is fixed and later teach the other.

c. Irregular verbs. Drill on the correct use of irregular verbs. The following forms are especially suggested, though there may be others that need attention; went, gone; flew, flown; threw, thrown: broke, broken; began, begun; drank, drunk; rang, rung; ran, run.

There is no value in learning and giving the principal parts of verbs by themselves. It is only when these parts are used intelligently in sentences that the habit of correct usage is formed. In the early work with the more common irregular verbs that give

most trouble, the teacher should plan some such exercises as the following:

Teacher. "John, you may run to the door."
Pupil. "I am running to the door." (He runs to the door.)
"I have run to the door." (While at the door.)
"I ran to the door." (After leaving the door.)
"It was I who ran to the door." (After reaching his place in the class.)
Teacher. "Mary, ring the bell."
Mary. "Miss Smith said: 'Ring the bell.'"
"I shall ring the bell."
"I am ringing the bell."
"I rang the bell."
"I have rung the bell."
"It was I who rang the bell."

Short snappy drills should be given daily on this or some other phase of language mechanics. Games are also valuable in fixing the correct forms. "Education by Plays and Games" (See Township Library List) contains good suggestions.

Teach correct use of *learn* and *teach; lie* and *lay, sit* and *set.*

Here again drill exercises are needed to fix the correct uses. Exercises like the following may be given:

Teacher. "John, lay the pencil on the desk."
Pupil. "I shall lay the pencil on the desk."
"I am laying the pencil on the desk."
"I have laid the pencil on the desk."
"I laid the pencil on the desk a moment ago."
"The pencil is lying on the desk."
"The pencil lies on the desk."
"The pencil has been lying on the desk."
"The pencil has lain on the desk since I laid it there."
"The pencil lay on the desk when I came in."
"I have seen it lying on the desk before."

d. Common errors. If the children make the following errors in their conversation, teach the correct forms and drill upon them:

(1) My father, *he* went away, for, My father went away (following a noun by a pronoun).
(2) *Yous* for *you.*
(3) *Oncet* for *once.*
(4) *Drownded* for *drowned.*
(5) *Busted* for *burst.*
(6) He *don't* for he *doesn't.*

c. Singular and plural forms. Give pupils practice in using both singular and plural forms of nouns in sentences. Choose many in common use that form the plural irregularly.

Fifth and Sixth Years

The third group of pupils in the country school for special training in language will usually be those who have attended school about five or six years. Constant review should be given on the language

work taken up in the earlier years until correct forms become habitual.

1. Oral work

a. Conversation. Continue exercises that cultivate in children the power of conversation. Make much of the general exercise feature of the school work with pupils in this and the advanced classes. See the suggestions regarding general exercises in the introductory statements and in connection with civics, hygiene, and nature study.

Make use of every opportunity to get children to take part in discussions, and to do so intelligently. To be able to take part in a conversation is an accomplishment.

It is quite noticeable in many schools that children are less free in their participation in school exercises when they get into the upper classes. Several causes may contribute to this, one of which is that the work becomes more formal, thus stifling the spontaneity which characterized the early years.

b. Pictures. Continue the study of pictures, remembering the suggestions given for the previous class. Such exercises furnish good material for conversation.

The following pictures are suggested for this class:

(1) Fall
- Plowing ..... Bonheur
- Alexander and Diogenes ..... Landseer
- The old shepherd's chief mourner ..... Landseer

(2) Winter
- Sir Galahad ..... Watts
- Repose in Egypt ..... Van Dyck
- Angel heads ..... Reynolds
- The boy Lincoln ..... Eastman Johnson

(3) Spring
- The torn hat ..... Sully
- Aurora ..... Reni
- Vagabond musicians ..... Mazzini
- The windmill ..... Ruysdael
- Signing of the Declaration of Independence .... Trumbull
- The haymaker ..... Adan
- The spinner ..... Maes

c. Outlines. Train the children in making outlines when studying their lessons in the other branches and in using these outlines in mking topical recitations. It is well to have these outlines on the blackboard. This group of pupils has a separate class in geography and some of them in physiology and hygiene.

d. Vocabulary work. Utilize the different subjects, especially reading, in building up the children's vocabularies. See p. 87.

e. History stories and other stories. This group has no separate history class. The work outlined in history is to be used as part of the material in the language class. Concerning these history stories Chas. McMurry in his "Handbook of Practice" says:

"The oral treatment of these stories should be developed as a distinct art. The rough adventure and realism of pioneer life, its hardships and heroism, should stand out plainly in vivid narrative and description. In history the real presentation largely takes the place of the object in natural science studies. * * * "As each topic is presented by the teacher, discussed and reproduced by the children, it should be distinctly phrased and placed as part of an outline on the board. This outline of the whole story, preserved in some permanent notebook form, becomes the basis for reproductions, comparisons, and final reviews."

In addition to the history stories the following are also suggested as being appropriate for the pupils of this class:

Pied Piper. How to Tell Stories—Bryant
Old Pines and the Dryad. Fanciful tales—Stockson
Merchant of Venice. Tales from Shakespeare—Lamb
How Arthur Became King. King Arthur and his Knights—Radford
Excalibur. King Arthur and his Knights—Radford
How Thor got his Hammer. In the Days of Giants—Brown
The Punishment of Loke. In the Days of Giants
Robin Hood Aids a Knight in Distress. Some Merry Adventures of Robin Hood—Pyle
Florence Nightingale. Girls Who Became Famous—Bolton
The Story of King Midas. Wonder Book—Hawthorne
Prometheus. Old Greek Stories—Baldwin

f. Library reading. The reading of library books and reporting on them should have a prominent place.

g. Poems. Continue the work with poems. (See p. 91.)

h. Literary society. The children in this class should take an active part in the literary society of the school if one is organized. The members should furnish parts of the program and they should also take part in the discussions and parliamentary practice.

i. Forms of composition. Pupils should be given practice in the four different forms of oral composition—description, narration, exposition, and argumentation—though these terms, should not be used with the children. Thus far the work has been chiefly narrative. The objects and scenes used for descriptions should be those within their range of observation and those in which they are interested. When a pupil tells a class how to make a bird house, how to work a problem, how a game is played, or how corn is planted and cared for it is an exercise in exposition or explanation. If a class in its history work is to select six of the most important names from a list of twelve the discussion that results is likely to be of the persuasive kind, each pupil giving arguments why certain names should go into this list.

2. Written work. Written work should always be based upon oral work. Oral work should precede all written work.

a. Short written compositions based on stories, on picture study, on experiences, or on work done in the other classes in school. The teacher should be satisfied with *short* compositions.

b. Letter-writing should be a prominent feature of the written work done by this class. Letters should as far as possible be written to real persons and sent through the mail. Discuss with the children incidents, and topics that would make interesting reading for the children's correspondents and consider with them also how these may be written in an interesting style. Give some attention to business letters. The folding of papers for insertion into envelopes and the addressing of envelopes should not be overlooked. See p. 98.

c. School journals and programs. Suggest short compositions. articles, news-items, etc., that the children may work up for the "school journal", the school literary society, or community program. For a community program care should be taken to choose topics of interest to people outside of school.

d. Paragraphing. Study with the children the building of paragraphs in their books. A study of good models is of special value. In teaching them to make outlines call attention to arrangement of topics. In all their written work, including letter writing, teach the children to outline the subject before they begin writing. This will help them to organize the material in a logical sequence.

e. Pupils' own experiences. Pupils should be encouraged to write short articles on subjects suggested by themselves. Encourage originality. Their own personal experiences and adventures are often good topics.

f. Dictation. Continue work in dictation and include in the exercises possessives, homonyms, contractions, abbreviations, quotations, uses of punctuation marks and capital letters taught, and any other appropriate features pertaining to written language work. The plural possessives should also be introduced in this class.

g. Writing from memory some of the stanzas from the poems that have been memorized. Compare the copy with the original for the purpose of correcting punctuation and spelling. Try to determine the reason for the punctuation marks used providing the pupils have studied the particular uses illustrated in the poem.

h. Booklets on the plan of those suggested for the previous class can be made in connection with their geography, history, hygiene, or nature work. Each pupil in class might prepare a booklet on one of the historical characters suggested for special language work in this class.

3. Lessons on the mechanics of language

a. Review all exercises given on the mechanics of language in the previous classes. Give special drill wherever needed.

b. Irregular verbs. Continue practice on the irregular verbs suggested in the previous class. (See p. 71.) Give special attention to the verbs that give the most trouble; as, *lie* and *lay*, *sit* and *set*, etc. Make many sentences to illustrate and confirm the correct

uses of these verbs. The correct uses of the following verbs should be emphasized: *let* and *leave*, *get* and *have*, *lend* and *borrow*.

c. Pronunciation. Drill on words, mispronounced by the children. Keep a few of these words in a conspicuous place in the schoolroom. Some of the mispronunciations are due to ignorance of the correct pronunciation while others are due to careless habits.

The following are a few of the common words that usually need to be given attention: burst, grocery, quiet, pumpkin, catch, handkerchief, just, swept, chimney, surprise, grandma, raisin, geography, across, because, such, morning, recess, address, which, this, get, creamery, instead, cranberry, often, grandpa, celery, everything, yes, (not yep).

d. Adjectives. Correct use of *this* and *that* with *kind* or *sort*. *This* kind (not *these* kind) of apples is delicious.

Correct use of predicate adjectives: I feel bad. The rose smells sweet. The iron feels rough. The cake looks good.

e. Adverbs. Correct use of adverbs: I like my work well. I am very glad to see you. I am really sorry that I said so. She stitched much more quickly than I did.

f. Pronouns. Correct use of a pronoun after a preposition: Between you and me, for him and me, with him and me, to you and me.

g. Prepositions. Correct use of the following: *between* and *among*, *in* and *into*.

Seventh and Eighth Years

In the country school only one class can be formed from this group of pupils. There will be from 100 to 120 recitation periods in grammar and the remainder should be given to oral and written composition. The grammar work should, as far as possible, be taken up the last year of the course.

1. Oral work

a. Outlines. The pupils are now having regular recitations in geography, civics, history and agriculture. In all these classes teach pupils to make outlines in studying their lessons and to use these outlines in presenting topics. In the recitations continue to work for correct expressios.

b. School library. Training the children in the use of the school library should be continued. See Lessons on the Use of the School Library.

c. Book reports. Oral reports on books or parts of books read should be made in the classes or before the whole school. Always try to make this work attractive to the pupils so that they will want to do it. By guiding the pupils in their reading and helping them make brief outlines as they read this work can be made excellent language training both in thought getting and in thought expression.

These book reports may also be given in the literary society or at community gatherings, thus adding an incentive for good work.

d. Vocabulary. Definite work should be done in enlarging the children's vocabularies. In civics, geography, history, arithmetic, agriculture, grammar and reading be sure that new terms are understood. Every word added to the pupils' vocabularies are made more definite and precise adds to their thought powers as well as to their powers of expression. Illustrations: jury, speaker (of assembly), policy (insurance), square rod, cacao, eclipse, trade winds, lock (canal), tuber, blight, predicate adjective. The children's vocabularies are enlarged greatly in their general reading. Suggestions for the study of synonyms are given in the discussion on "Vocabulary Work" on p. 88, and also in "Lessons on the Use of the School Library", p. 34. The latter publication also contains suggestions for word study. See p. 44–46.

e. Poems. Definite study of some poems unless these are studied in the reading class. It is suggested that some of the poems selected should correlate with the history work (My captain, O My Captain), or show forth the beauties of nature (The Fringed Gentian.) Many of these should be memorized. See "Selections for Study and Memorizing" or some other collections of poetry in the school library.

f. Study of pictures. The following list is suggestive

(1) Fall

The Angelus ..... Millet
Sheep—Autumn ..... Mauve
The horse fair ..... Bonheur
Joan of Arc ..... Le Page
John Alden and Priscilla ..... Boughton
Return to the farm ..... Troyon

(2) Winter

Christ and the doctors ..... Hoffman
Frieze of the prophets ..... Sargent
Sistine Madonna ..... Raphael
Evolution of the book ..... Alexander
Washington at Trenton ..... Faed

(3) Spring

The sower ..... Millet
Change of pasture ..... Bonheur
Song of the lark ..... Breton
The shepherdess ..... Millet

(4) Sculpture

Appeal to the Great Spirit ..... Dallin
Abraham Lincoln ..... St. Gaudens
The Shaw Memorial ..... St. Gaudens
Nathan Hale ..... Mac Monnies
The minute man ..... French

g. Editing a school paper which may be read at the meetings of the literary society.

h. A literary society affords a great opportunity for both oral and written language work, as well as for practice in speaking and mastering the rudiments of parliamentary practice.

i. Short talks. Have the pupils prepare short talks to give before the class, or the school. Encourage them to select subjects of general interest. Current events, nature study, agriculture, history, and geography furnish excellent material for these talks.

2. Written work

a. Grading. If pupils are found to be classified too high in their language work, if they are found to be weak in the fundamentals of the subject, exercises should be given them of a more elementary nature than those outlined here. It often happens that some children because of irregular attendance or poor teaching in the lower classes are very weak in their language work when they get to the age when they should be doing advanced work. In such cases the teacher should determine by simple tests what the children are able to do and build upon the ability they possess. Dictation work should be continued and any work suggested for the lower classes will give needed practice on forms that should be mastered.

b. The written work for this class should include the following:

(1) Have pupils write from outlines made by them with the help of the teacher. Have pupils make outlines of their own from which to write.

(2) In making outlines for and with the pupils, the teacher should remember that each topic or division of the outline needs a separate paragraph for its expression.

(3) Pupils should be led to examine selections in their reading to find the subjects of the paragraph.

(4) Encourage the children to carry on correspondence with relatives and friends. In suggesting topics for correspondence remember the children's interests.

(5) If the business practice suggested in the arithmetic outline is taken up, give special attention to the language feature of all business papers. At any rate be sure that the pupils master the essentials of business correpondence.

(6) Emphasize neatness and good penmanship in all written work. Do not call for long compositions. Quality not quantity should be the teacher's motto in the written exercises. Better two paragraphs well written than ten paragraphs full of errors.

3. Lesson on the mechanics of language. This work is given in connection with the study of grammar.

Grammar

1. Dislike for grammar. The reasons why many pupils, especially boys, dislike grammar are perhaps the following:

a. The study of grammar is begun too early in the course.

b. The teachers go too deep into the subject.

c. The textbooks are often too difficult.

d. Pupils are advanced too fast. In grammar as in arithmetic much drill work is necessary and the material needs to be graded to suit the child's progress.

e. Pupils see no practical value in the study.

2. When the study of grammar should begin. No pupil should take up the study of grammar unless he has a reasonable command of language. It is far more profitable for him to spend his time in gaining fluency of expression than in trying to learn grammatical constructions which are almost certain to be beyond his comprehension.

The formal study of grammar should not be taken up until pupils reach the eighth grade except that pupils in the country school doing work in the seventh grade may be placed in the grammar class with the eighth grade pupils. The incidental study of such problems of grammar as have a direct bearing on the correction of common errors of speech may be taken up in the lower grades but when such parts are taken up they should be discussed purely from the language standpoint.

Charters in his book, "Teaching the Common Branches", p. 83, makes the following statement regarding the time when grammar should be taught: "It is possible for a subject to be started before pupils are old enough to understand it; and if it is started then, they never get it straightened out in their minds. It is always hazy and misty. But, if it is left until the pupils can understand it, they will learn it easily and will get a clear grasp of it.

"It is undoubtedly better to begin grammar in the seventh grade than earlier. If, in the language books, lessons in grammar are given for the grades lower than the seventh, they should be omitted. Attention to them before the seventh grade is not only a waste of time, but a positive damage to pupils; and in every case the grammatical items should be blue-penciled and omitted."

3. Suggestions for eighth grade work. In the eighth grade, no topics should be taken up beyond those outlined in this course. The pupils should be given much practice in the building of sentences illustrating the various constructions. Emphasis should be laid upon having these sentences contain information from the various school studies. By this method of procedure the study of grammar gives excellent practice in sentence structure and it becomes a valuable feature of composition work. The children can also be given much training in the proper arrangement of modifiers and in the selection of words.

4. Sources of illustrative sentences. Sentences used in every day speech are valuable for grammar study but some of them are too difficult for analysis in the elementary school. Pupils can be trained in their grammar study to give attention to common expressions and in this way they get valuable practice in applying the rules of gram-

mar and in testing their own speech by these rules. In the words of Klapper, "The teaching of grammar is justified only when children learn to use it for purposes of self-criticism and correction". (The Teaching of English, p. 224.)

It is a good practice to encourage children to bring into the grammar exercise, for illustrative purposes, well-known selections from literature. On the other hand, it is a bad practice to force the study of literary selections in the grammar class.

In the elementary school the emphasis in grammar study should be placed upon comparatively easy sentences. Constructions too difficult or too complex should not be taken up for discussion. If the work is kept within the ability and comprehension of the pupils and made interesting so that the children can see the value of the study, they will have a tendency to like the subject.

5. Division of time between grammar and composition. In the eighth grade about three recitation periods a week may be given to grammar. The remaining two should be given to oral language and composition. Much attention should be given in the other classes (such as history) to training the pupils in reciting by topics.

6. Diagraming, if properly handled, is of considerable aid to pupils in seeing the relation of the parts of the sentence. It is, however, not an end in itself and must be used simply as a means to help the children understand the relation of the elements. It is especially valuable for blackboard drill purposes and for seat work. By its use a teacher can tell at a glance whether or not pupils are able to recognize certain constructions.

7. Textbooks. Although the outline given in this grammar course should be followed quite closely and the pupils be given much practice in sentence construction, yet a textbook should be used to some extent. After the pupils have been taught a new construction and have given their own sentences, the list in the book may be used for further study and drill. Sentences that are too difficult or complex should be omitted. Definitions that are taught should, after they have been developed, be taken from the textbook.

8. Dictionary. While the children are studying grammar they should be given special work in the use of the dictionary. Teach the lessons assigned to the Grammar and Language Class at the bottom of page 19, Lessons on the Use of the School Library.

9. Suggestive outline for the teaching of grammar

a. Begin the study by giving many examples of two-word sentences (the unmodified subject and the unmodified predicate): Cork floats. Lead sinks. You study. We came. He comes. Orioles sang. Lee surrendered. Washington retreated. Japan won.

Teach *subject* and *predicate.*

Have pupils make a list of sentences like the above, stating facts from history, geography and their own observations. This lesson,

though apparently easy, will impress upon them that it requires considerable thinking to make two-word statements that are true. If they could but use a *third* word they would be greatly helped.

From the above exercises bring out the *need of modifiers.*

b. In the two-word sentences which word is the more important? Lead children to see that we do have sentences with but one word: Run! Play! Look! Stand! Fire! (Commands). What are the subjects in these sentences? ("You" understood). Have children give other examples.

Teach the *verb,* using the sentences they have written. In the study of grammar it is well to have each pupil procure a notebook into which he may write his sentences and such other work as the teacher may direct.

"Verb" is from the Latin word *verbum* which means *the word.* Impress upon the class early that *the verb is the most important word in the sentence.*

c. Teach the *noun* from the sentences the pupils have brought in. Which nouns represent *one* thing? Which represent *more* than one? Teach *singular* and *plural number.*

d. Teach the *pronoun* from the sentences studied. Add other sentences. Teach singular and plural forms of pronouns introduced. Have pupils note how the form of the verb sometimes changes with the form of the pronoun.

(Do not hasten this work unduly. The success of the work in grammar depends largely upon the way the first lessons are taught. Give children lists of nouns with which to construct sentences; then give lists of verbs.)

e. Introduce *verb phrases* by having children change the verbs in the sentences they have: Crows are flying. I am reading. Are you studying? We are coming. Bats do fly. Cornwallis did surrender.

Can all the verbs be changed in this manner? Is the meaning exactly the same in the changed expressions?

Have the children construct other sentences with verb phrases.

f. Teach the *adjective* by placing before the children sentences like the following: The little bird sings. An owl hoots. A horse neighs. The big dog barks. The frog croaks.

Note the changes that can be made in the meaning of the statements if we introduce *the, a,* and *an.*

Have pupils construct sentences containing adjectives. Have them note whether or not they are appropriate. Note the use of adjectives in some reading selection. Have pupils supply adjectives in blank forms as: ———— soldiers fled. ———— pumpkin grew.

Encourage the children to exercise judgment in the choice of adjectives and to note the choice of adjectives in their general reading: The nimble squirrel; an arduous task; the topmost twig.

g. Introduce sentences containing *adverbs:* The birds are flying swiftly. We are coming soon. She reads well. Franklin spoke wisely. The band played sweetly and softly.

Have the children bring to class sentences containing adverbs. These sentences may also contain adjectives. In all the grammar work keep up practice on old forms as new forms are being taken up.

After the pupils have gained facility in working with adverbs that are placed in their regular order, introduce the *inverted* order as shown in sentences like the following: Down fell the acorn. Away flew the bird. Below lay the quiet valley. Never again did he return. Loudly pealed the bells. Widely read were his books. Quietly Washington retreated.

Here is an interesting lesson. Let the pupils bring in many sentences of this kind. Encourage originality. When the pupils learn to use the inverted order, their compositions will improve. Encourage them to apply what they learn in their grammar class in all their composition work.

By means of the inverted order emphasis may be placed upon different ideas and shades of meaning may be brought out.

Adverbs are also used to modify adjectives: A very interesting problem. An exceedingly difficult task. An unusually strong man. These phrases need not be put in sentences.

Adverbs are also used to modify other adverbs: The hepatica blooms very early. The boys played exceedingly well. (Note: Give frequent reviews throughout the course.)

h. Suggestions for the uses of adjectives and adverbs:

(1) Do not use *them* for *those* in sentences like the following: "Those boys are coming here."

(2) Use discretion in selecting adjectives and adverbs. Many people use too much such words as awful, awfully, nice, splendid, lovely, tc.

i. Introduce sentences showing the subject modified by a *prepositional adjective phrase:* The boys in the boat are singing. The man by the river is whistling. The squirrel on the fence is chattering. The army of the British retreated. First came the children of the village.

The prepositional phrase consists of a preposition with its object. Like what part of speech are the above phrases used?

Give practice in constructing sentences with adjective phrases.

j. Introduce sentences containing prepositional *adverbial phrases.* The prodigal son returned to his home. The bird is singing in the treetop.

After some practice on sentences written in the regular order take up the inverted order: Near the river bank stands a farm house. Under the spreading chestnut tree the village smithy stands. Down the valley flowed the stream.

Considerable time may profitably be spent on this phase of the work. Develop in the children a taste for good sentence structure and variety.

k. In sentences like the following have the pupils note the form of the pronouns: He came with me. I came with him. We spoke to

them. They laughed at us. My book is here. Teach the different forms of the pronouns, giving the terms nominative, possessive, and objective. Lead the pupils to see that the *objective* form is the one always used *after* a preposition. Give practice on forms like the following: They came to him and me. This work is for you and me.

l. Give sentences having *compound subjects.* The boys and girls are playing. The British and the French were fighting. Grant and Lee met. Finally came the slave and his master. You and I are here.

Let the members of the class construct additional sentences and copy them in their books after they have been approved.

Teach the *conjunction.* Do not teach the different classes of conjunctions.

c. *Compound predicate.* The man spoke hastily and departed. We left yesterday and returned to-day. They advanced quickly and then retreated.

n. Introduce sentences illustrating the use of the *predicate adjective:* The book is interesting. The soil is moist. Most birds are beneficial. Washington was angry. The president was sad.

In the above sentences the adjectives are a part of the predicate and are therefore called predicate adjectives. They modify the subject.

After drill and correction of sentences brought by pupils introduce the inverted order and the interrogative form. Give much practice. Bright was the sun. Silent was the night. Wet was the season. Cold would the winter be. Is the location good? Was his record enviable? Was his statement correct? Never was he tardy.

o. The *predicate noun:* Washington was president. Black Hawk was an Indian chief. Hamilton was a financier. Is air a fluid? Was Jefferson an educated man? A hero is he!

This is a good exercise for training pupils' judgment.

p. *Predicate pronoun:* This is I. Is this he? Who are we? Is that she? It is I. It is we. It is they. 'Tis I. 'Twas he.

q. Teach the different forms of the personal pronoun by using them in sentences. Have the pupils construct additional sentences. I, my, me; you, your; he, his, him; she, her, her; it, its; we, our, us; they, their, them.

Note that the subject or *nominative* forms as I, you, he, she, it, we, they.

The *possessive* forms are my, your, his, her, its, our, their.

The *objective* forms are me, him, her, it, you, them.

Develop the above three statements through the study of sentences. Then arrange the forms as follows:

	Singular			Plural		
	Nom.	Poss.	Obj.	Nom.	Poss.	Obj.
First person.....	I	my	me	we	our	us
Second person	you	your	you	ye		
	thou	thy	thee	you	your	you
	he	his	him			
Third person.....	she	her	her	they	their	them
	it	its	it			

Give much practice in constructing easy sentences illustrating each of the above forms.

r. Rules:

(1) When a pronoun is used as *subject* or as *predicate pronoun* it takes the *nominative* form.

It is I. It is they. He and I were there. It was not I; it was he.

(2) The pronoun *you* when it is used as a subject always takes a plural verb.

You are a stranger. Were you one of his friends?

s. The *direct object:* Grant defeated Lee. Did you strike me? We took our friends to the city. The boys played ball. I know my lesson. Have you written your sentences? When do we play marbles? David slew Goliath.

Have the pupils write many sentences illustrating this construction. Encourage variety and call attention to word order: These men did I see yesterday. So we sang the chorus from Atlanta to the sea. Mine eyes have seen the glory of the coming of the Lord. (Note peculiar use of *mine.*)

Teach *transitive* and *intransitive* verbs in connection with these sentences. Change the verbs to the passive form.

t. The *indirect object:* He gave me a book. We found him a pencil. She fetched us some water. The beggar asked the king a question. The governor gave Washington a letter. A gift I have sent him. That experience taught me a lesson.

u. Rules:

(1) When a pronoun is used as the object of a verb or of a preposition it takes the *objective* form. Review sentences in k above. Give much practice on sentences like these.

(2) The *possessive* forms and not the objective should be used as adjective modifiers. My coat (not me coat) is torn. Why should *those* be used in h? The man's being a king never occurred to us.

v. Who, whose, whom: Who are you? Whom did you send? To whom did you speak? Whose book is this? Whom do you work for?

Have pupils construct additional questions using these words.

Who is the nominative form, *whose* the possessive and *whom* the objective. When should each be used?

The pupils have now had all the English words in which the objective forms differ from the nominative. Give drill to fix the forms.

Nominatives: I, we, thou, ye, he, she, they, who (8).

Objectives: me, us, thee, him, her, them, whom (7).

Nouns do not have special forms for the objective cases. Hence do not teach "case."

w. Nouns and pronouns in *apposition.*

Columbus, the discoverer of America, was born in Genoa. Fulton, the inventor of the steamboat, was ridiculed. There they found Basil, the blacksmith. In the infinite meadows of heaven blossomed the lovely stars, the forget-me-nots of the angels.

x. *Possessives:* Napoleon's time had come. Boys' coats for sale here. Millionaires' homes are not always happy.

Give the pupils much practice in constructing and in writing from dictation, sentences containing possessives. Do not spend time on expressions that are never used.

y. *Nouns of address:* Come here, John. Send him some money, Philip. Mary, where are you? Come, Agnes, and see the beautiful scene. For your sake, John, I shall come again. Bring the good old bugle boys, we'll sing another song.

A noun of address should be set off from the rest of the sentence by a comma.

z. Position and meaning of modifiers: Considerable practice has been given in constructing sentences having the inverted order. Call attention to the fact that the position of the modifier determines the thought. Sometimes a wrong impression is conveyed because the modifier is improperly placed.

aa. Correct use of the negative. Give the pupils practice in constructing sentences to illustrate the following rule:

Do not use two negatives so that one contradicts the other.

I have no book. I haven't any book. No one can help you.

bb. Prepositions. Use care in selecting prepositions. The boys ran into the house. He passed between the two. He walked among the people. Mine is different from yours. I agree with you.

cc. Principal parts of verbs: Give sentences illustrating the "parts," present, past and perfect (or past) participle. Have pupils construct sentences. Make lists of principal parts of important irregular verbs such as do, did, done; go, went, gone; come, came, come: lie, lay, lain.

Whenever the perfect participle is used an "auxiliary" or "helping" verb some form of "be" or "have," must be used with it. Have done, is gone, had come, has lain. Drill upon these forms as you would upon a process in arithmetic.

With these principal parts and the auxiliary verbs a large variety of *verb phrases* can be made showing modifications of various kinds.

I see, I saw, I have seen, I had seen, I shall see, I shall have seen.

Develop the *six tenses*, giving the name and showing the meaning of each.

dd. *Adjective clauses:* Gone are the days when my heart was young and gay. This is the house that Jack built. The man who came with us lives here. The bird that we saw was a chickadee.

Have the pupils add to the list sentences of their own construction.

Teach the meaning of *complex* sentences.

ee. *Relative pronouns.* In the above list select the relative pronouns. Teach *antecedent.* For what word does the relative pronoun stand in each case? Give much practice in determining antecedents.

A pronoun must agree with its antecedent in gender, person and number. (Explain what is meant by gender. Review person and

number.) Every boy must learn his lesson. Each one of the boys saw his mistake.

Give much practice on this rule.

The pronoun *who* is used in speaking of persons only. The man whom you saw has arrived.

ff. *Adverbial clauses:* When he comes, I shall ask him. We shall go where you lead. Since you like the book, you may keep it. Although the task is difficult, I shall do it.

Speak of *when, since,* etc., merely as connectives or conjunctions.

gg. *Noun clauses:* The story was not true. That the prisoner escaped was not true. What he did with his money was a mystery to us.

We did not believe his story. We did not believe that he had been robbed. We discovered that the rumor was false. "Can you understand the language?" said his father.

His answer was short. His answer was that he could not come. The rumor was that the prisoner had escaped.

The report that he had been hurt was not true.

He was satisfied with his condition. He was satisfied with what he had. This was the substance of his talk. This was the substance of what he said. He sold the farm for a small sum. He sold the farm for what he could get.

hh. *Compound sentences:* Saul has slain his thousands but David has slain his tens of thousands. I found Rome a city of brick but I have made it a city of marble. Have you found your book or must you buy another?

ii. Summary of rules:

(1) A verb must agree with its subject in person and number. Each of us has his faults. He doesn't like his work. Every one of the party is from our state. The North and the South were reunited. He and I are going.

(2) When a pronoun is used as subject or as predicate pronoun it takes the nominative form. See r.

(3) The pronoun *you* when used as a subject always takes a plural verb. See r.

(4) A pronoun used as the object of a verb or the object of a preposition must have the objective form. See k.

(5) Do not use *them* for *those* as a modifier of a noun. See h.

(6) Use discretion in selecting adjectives and adverbs. See f, g, and h.

(7) Use care in placing modifiers so that there may be no question as to the meaning of the sentence. See z.

(8) Use care in the selection of prepositions. See bb.

(9) Do not use two negatives so that one contradicts the other. See aa.

(10) A pronoun must agree with its antecedent in gender, person and number. See ee.

(11) The perfect participle of the verb should always be used with some form of the auxiliaries "be" and "have" and only with such auxiliaries. See cc.

(12) In comparing two things or groups use the comparative form of the adjective; in comparing more than two, use the superlative.

He is the taller of the two. Henry is the oldest of the four brothers.

III. SUGGESTIONS WITH REGARD TO PARTICULAR PHASES OF THE WORK

1. Vocabulary work. The conversational exercises; the work with poems, pictures and stories; the oral compositions and the writing of original themes and letters will do something to enlarge the pupil's vocabulary whether the teacher works consciously for it or not. They will do much more if the teacher realizes the importance of vocabulary gain. Until she feels how invaluable vocabulary equipment is no teacher will give enough time to vocabulary work. "The slowness in learning to read on the part of many children is due largely to their narrow oral vocabularies. . . . . The greatest literary and social handicap of the average citizen is beyond doubt a narrow vocabulary doubtfully possessed."

A teacher may shorten the time it might take for these words and expressions to become a part of the pupils language stock by tactfully and perseveringly cultivating in the pupils their dormant interests in the apt word and forceful expression in exercises especially designed for this purpose. It is no doubt true that the development of appreciative power is the best of aids in the development of expressional power. So the teacher must spare no effort to arouse appreciation. She must give drills stressing vocabulary work:

a. Literature as a source. In connection with every study, but especially with any piece of literature studied either in the reading or in the language classes, children should be on the lookout for these fitting words and phrases. Their language notebooks should contain pages on which these are listed. Here are a few to illustrate:

unscrupulous ruler	majestic sunset
unfeigned joy	tempestuous sky
turbid current	lavish display
sluggish water	cheered lustily
weary, wayworn wanderer	resolutely skip
arduous task	sobbed spasmodically
noteworthy achievements	speak graciously
obstreperous proceedings	saluted gallantly
irascible disposition	respond cordially

When the pupils are preparing for oral or written composition, encourage them to consult these lists to see whether or not they can incorporate some of these phrases into their exercises.

b. Study of synonyms. Another way to get children interested in vocabulary gain is to have a list of synonyms for the seventh and eighth grades. "Correspondence in meaning in synonyms gives freedom and variety. Differences help one to exact choice of the fittest words to express shades of meaning." The following is a list of much abridged from one given in the Course of Study in the Elementary Schools of Decatur, Ill.;

abandon, deceive, forsake, leave, forget.
beautiful, attractive, charming, pretty.
clever, capable, intelligent, talented, gifted.
gather, assemble, collect, convene.
healthy, sanitary, wholesome.
implore, ask, beg, beseech, pray, petition.
peculiar, singular, strange, queer, rare.
politeness, courtesy refinement.
awful, dreadful, horrible, frightful.
persuade, allure, coax, entice, urge.
colleague, ally, associate, partner.

If pupils notice in what association these words are found and copy citations from good writers containing them, and if they also look them up in the dictionary and practice using them in oral and written sentences of their own, they will gradually get a feeling for the right words. Such phrases as the following illustrate the company in which the synonyms of one much abused word are found: A funny story, a comical face, a clever joke, a jolly time, a witty chap.

c. Definite words needed. If a child is to be kept from using for his words of praise only such hackneyed words as *fine*, *lovely*, *splendid* and nice, it will be because his teacher has suggested instead such expressions as a lucid explanation, a masterly game, a spirited march, a felicitous speech, a delicious pie, a refreshing spring of water. If he is to be kept from using only such words of dispraise as *awful* and *terrible*, it will be because his teacher has helped to equip him with such phrases as a serious mistake, a ludicrous blunder, uncivil manners, discourteous treatment. See Woolley's Handbook of Composition, Township Library List.

d. Prevention of slang. If teachers get children interested in becoming skilled in the use of good, vivid descriptive words, we shall not often find them resorting to slang. Tell them that the person who uses slang reveals the poverty of his language stock. Get them acquainted with idiomatic English.

e. Typical exercises. The following exercises are typical of much work that may be done. The work in each case should be first oral and then written. The lists should grow gradually and the pupil should be encouraged to go to books or friends or to listen closely to conversations that will help him to increase his lists:

Write from ten to forty *individual* names under these *class* names: flowers, musical terms, tools fabrics, birds, games and sports, vehicles, precious stones, reptiles, etc.

Write from ten to forty words that are needed in the vocabulary of a dressmaker, carpenter, shoemaker, furniture dealer, farmer housekeeper, etc.

Write from ten to forty descriptive words for eyes: forehead, form, manner, sky, horse, fire, trees, villain, a story, a person's voice, etc.

f. Puzzles. Working the puzzles given in such magazines as the St. Nicholas introduces the children to many new words.

See Everyday English by Jean Sherwood Rankin for many valuable suggestions in vocabulary work.

2. Picture study

a. Directing taste. The child has an innate love of pictures—a heritage from ancestors who lived in the open and gazed upon the never ending pictures of earth and sea and sky. That pleasure in pictures is a taste that needs direction if it is to give life long satisfaction is demonstrated on all sides by the popularity of the "funny paper" with its vapid and sometimes coarse representations. Can we, while utilizing this taste of the children, study their craving for pictures and at the same time make it yield them a greater appreciation of the choice things of life,—an appreciation of robust, wholesome humor rather than that which is coarse, an appreciation of the natural beauty that lies "all about us if we have the eyes to see", an appreciation of the splendid personal qualities that pictures frequently depict? We need to select pictures wisely and to present them sympathetically but delightfully. While it is advisable to introduce pupils to reproductions of master pieces, we need not confine our studies to these. There are many excellent pictures appearing from time to time in our better periodicals that are well worth study.

b. The list given in this course is not to be considered an exclusive one, for the teacher who has a preference for certain good pictures not herein included, can, because of this appreciation, make them speak their message to the pupils, and it may be wise to substitute her choice. She should certainly introduce the children to her best loved pictures, provided they are pictures which it has been found little children care for. However, if the schools of this state study the same pictures, it will be easier for teachers to prepare themselves to give language lessons that are really worth while. (See p. 42.)

c. The classification of these pictures is not intended to be rigid. They have been grouped in four divisions to suggest the economy that is possible when classes are combined. It is suggested that the teacher may occasionally combine more grades than are here indicated for class study. It is not expected that the younger children will get as much as the older children from such an exercise. It is enough if their interest is held and thought stimulated. The requirements made of the different grades should be correspondingly different.

d. Textbooks. The treatment of picture study in our best language textbooks is very suggestive. The detailed plan given for

studying any one particular picture may not be as well suited to the class as a modification that the teacher can arrange. The most helpful preparation that the teacher can make will be to outline the story that the picture suggests, or to write a description of the scene depicted. This will show her the difficulties that may confront the pupils and will be a means of helping her to see more in the picture than can be seen from a superficial study of it. At times the teacher should say to her pupils, "This is what the picture tells me," and then give a full version of her interpretation. After pupils have gained some power in reading pictures, they may be required to describe them without first answering questions asked by the teacher. The picture may generally be thought of as the climax. The important problem for the children is to bring out that which immediately preceded or followed the climax.

e. A general outline which will be helpful is the following:

(1) What does the picture as a whole represent?

(2) What is the relation of various characters to one another? What has happened? What will happen? (To little children the action depicted is the most important feature.)

(3) Interesting incidents connected with the artist's painting of the picture if any are known or may easily be imagined from the facts of his biography. This is all of the artist's life that should be considered.

(4) Means employed by the artist to convey thought, arouse feeling, or suggest the story:

(a) Location:
Any particular period of history,
Time of year,
Day or night,
Any particular country.

(b) Grouping:
Principal and subordinate characters or objects,
Relative importance of their positions and what emphasizes these,
What characters or objects could be left out? How would these change the picture?

For Intermediate and Upper Classes.

(c) Beauty:
What are the colors in the original picture?
How are the light and shade distributed?

(d) In what city and in what building in that city may the original painting be seen?

f. Reference books. A few of the most helpful school library books on this subject are the following:

Cady & Dewey. Picture stories from the great artists
Emery. How to enjoy pictures
Horne & Scobey. Stories of great artists
Powers. Stories of famous pictures, books 1 and 2
Rydingsvard. Art studies for schools.

See also the various books by Estelle Hurl. There is one for each of eight artists. There are several other books given under Fne Arts in the Township Library List, any of which is helpful.

g. Artists represented. It will be seen by looking over the names of the artists in the lists of pictures for study that an attempt has been made to include, so far as was expedient with the limitations imposed by the immaturity of the children and the limited time at their disposal, at least one picture by each of the artists who are by general consent placed in the first rank. **The mere recognition of these pictures by name and by artist has cultural value.** The two should always be associated. Discovering one or more other pictures by the same artist is a delight.

h. Collections of pictures. A collection of carefully selected Perry or Brown pictures, well mounted and well cared for (preferably in a filing drawer), would enhance the joy of every child much as does the possession of a victrola by a school. The grouping of pictures on the same subject and the choice of the one preferred tends to interest children. Some of them will like the Sistine Madonna best, some the Madonna of the Chair, others the Bodenhausen Madonna, etc. A few American artists and sculptors have been purposely included. No child should leave our elementary schools without some day hoping and planning to see in Madison, Milwaukee, Chicago, New York, or Boston, some of the glories of American art. The decorations in the new Capitol (especially Blashfield's painting in the Assembly Chamber) and the art treasures of the Historical Museum should be mentioned at least. Get children interested in noticing the pictures and decorative features of schools, libraries, churches, and homes.

i. Catalogues of a few firms that have inexpensive pictures:

Bureau of University Travel, Trinity Place, Boston. Prints, size 5¼ x 7¾ inches, 1 cent each, 80 cts. per hundred. Good classified catalogue.

Brown, G. P. 38 Lovett St., Beverly, Mass. Pictures similar to the Perry pictures; price 1 cent each in lots of 10 or more; $1 for 120.

Houghton Mifflin Co.., 378–386 Wabash Ave., Chicago. Portrait catalogue, price 10 cents. "Portraits of authors and their homes," price 20 cts. for 10; 1 ct. each in lots of 100.

Perry Picture Co., Malden, Mass. Reproductions of famous pictures and noted persons and places, forest trees, Indian portraits. Price 1 ct. each in lots of ten or more; 120 for $1. A 5 ct. size can also be obtained.

Prang Educational Co. 378–386 Wabash Ave., Chicago. Reproductions of famous pictures and noted persons and places, forest trees, Indian portraits. Regular size 5½ x 8 inches. Price 1 ct. each in lots of twenty-five or over. 120 for $1.

Some of these firms also have larger copies suitable for schoolroom decoration.

3. Poetry. An important phase of language work is the study of poetry. It is important not merely because of its reaction upon the pupil's choice of words but mainly because it makes possible a more complete appreciation of life, because it adds a valuable contribution to the pupil's emotional equipment, and provides enjoyment for his

leisure hours. The main object to be attained in the teaching of poetry are to get the pupils to like the poems and to store their minds with precious possessions.

Poetry will do for children what little else can do to bring them to a love and appreciation for the best in literature.

"It will give them the habit of carrying a literary quality in their conversation.

"It will give them a heart full of fresh and delightful associations and memories connected with poetry hour to brighten mature years.

"A poem should be so read that it will sing itself into the hearts of the children. The best way to teach children to love a poem is to read it inspiringly to them."

a. A general method for the teacher to use in all grades is as follows:

(1) *The preparation of the minds of the pupils* for the selection by giving them or causing them to get the historical or geographical setting, or the information needed for the appreciation of the selection.

The Sand Piper by Celia Thaxter should be prepared for by talking with the children about the sand piper, showing them the picture and telling them of the New Hampshire light house where the sand piper lady lived.

Thanksgiving Day by Child requires an acquaintance with New England customs and weather.

The Song of the Chattahoochee requires a map of the Southern States showing the location of the rivers, etc.

(2) *The building up by explanation* and by appeal to the children's experience, of the mental pictures which occur in the selection. This will include a discussion of words used by the author, especially when they have a peculiar significance.

This is necessary only when the author's words are not already in the children's vocabularies in the sense in which he uses them. For instance, before *Cock Robin* is read to first grade children, they may need to know something about the meaning of *shroud, parson, clerk, kite, link, psalm, and toll.*

(3) *The story of how the author came to write the poem*, or the imagined circumstances under which it was done. This is generally all the literary biography that children need. Often we do not know the circumstances, but we can always imagine what they might have been.

(4) *The presentation of the poem* in complete form given with the best expression of which the teacher is capable. The poem should either have been committed to memory or it should have been so thoroughly mastered that the teacher is quite independent of the book. While the poem is being rendered, a printed form may be in the children's hands. If it is not, the written form should be given

as the next step. The children may follow the teacher with their books open or closed, as it seems best.

(5) *The assignment of the poem* as a reading lesson. This may or may not be followed by

(6) *Committing the selection to memory.*

b. These preparatory steps necessary. No poem should be learned by heart until these preparatory steps have been taken. When a poem is committed, it is better to have it learned as a whole by successive readings than to have it studied stanza by stanza.

c. Collections of poetry. Every school is likely to profit far more by using three or four collections or compilations of poetry listed in the Township Library List than by the use of several volumes by individual authors. A volume by an individual author should be the fourth or fifth purchase of poetry for the library, never the first or second. The collection entitled "Selections for Study and Memorizing,"—a very careful compilation arranged by a committee of New York teachers—is perhaps the best for country schools and should be the first volume purchased.

From the books of poems listed in the Township Library List, the following are named as those that make the strongest appeal:

Alexander and Blake. Graded poetry readers
Shute. Land of song, books 1 and 2
Wiggin and Smith. Posy ring and Golden numbers.
Note. If none of these collections is in the library, but there is some other book containing poems, the teacher should make use of it.

4. Original work. In the conversational work pupils get practice in describing their observations and telling about their experiences. This phase of language work prepares pupils for one of the great uses to which all people put their language training,—taking part in the everyday conversations of life. If pupils are ever to hold their listeners, it will be because the teacher helps them to clarify and vitalize the knowledge which they gain at first hand. The teacher herself must frequently contribute from her own observation and experience by telling interesting things she has heard, and also by giving her ideas regarding subjects in which children are interested. This will arouse the children's interest and enthusiasm, and lead to a desire for expression on their part.

The desire for self-expression can also be stimulated by training the imagination of children. To develop originality the following suggestions are given:

a. Imaginary settings. Let a child in the primary class be required to give an imaginary setting to a sentence. Suppose the sentence placed before the class is: "They all ran to find it." This sentence is to come as the climax of a little incident. In order to give the incident the children will be required to determine who may be meant by "they all." What may be meant by "it?" Not all objects that can be designated by "they" would run to find something. "To

find" means to the child the selection of some objects capable of the act of searching, and "ran" will demand the selection of some object that may display eagerness in searching. The following is an illustration of the work done with a third year class with the sentence just discussed. At the end of the conversational exercise a little child gave the following:

"There was once a mother hen that had a brood of little chickens. One day some one threw some feed to her. 'Cluck, cluck, cluck' went the mother hen. 'Come here I want to show you what I have.' She pretended she was eating. Fluff said, 'Mother has found something to eat; let us see what it is.' So they all ran to find it."

This delightful game will move forward with much more zest if the teacher can herself continue the game by narrating the events that might lead up to another such sentence as "I never saw a little lad so proud." The children admiring their teacher's stories will catch from her the atmosphere that will enable them to place in imaginative settings such sentences as "I am going to put mine away," or "We must send it to Mary." An examination of first or second reader not studied by the children will help a teacher to find many sentences adapted to this work.

b. Application of proverbs. As the pupil advances in the grades he may be asked to invent or recall an incident or situation to which a proverb or a quotation will apply. Under what circumstances might one person say to another: "A rolling stone gathers no moss," or "Catch your chicken before you grease your pan?"

c. Finishing stories. A story may be begun and the children asked to finish it in writing at their seats. Before they are dismissed, however, they should discuss some probable sequels.

d. Forecasting. Let pupils forecast what is likely to happen in the creamery they are to visit or at the picnic they are to attend, or at the Christmas tree celebration for which they are planning.

e. Pupils' sentences. The greatest opportunity of evoking original work from the pupils in the *formal* work of the school is in exacting a high standard in the sentences which they are asked to give in reading, spelling and language classes to illustrate the use of definite words, or of marks of punctuation, or of parts of speech, etc. If the teacher will expect something better than the "pale gruel of talk" generally accepted, the sentences will become an educative influence on the pupils who formulate them. In illustrative sentences any words or expressions which are used so often that they may rightly be called hackneyed, humdrum and commonplace should not be accepted. The test of a good sentence furnished by a child is the expectancy with which the other children await the statement and their expressions of satisfaction or admiration with which they hear it. Having heard a good sentence given, they begin to exert themselves to give something equally worthy of their

abilities. However, no teacher can hope to get such sentences unless she herself is ready to furnish them.

f. Typical sentences. The list given under *Seat Work for the Language* Class will be suggestive. After copying, adapting, condensing, or expanding book sentences as they stand, using them as models, children enjoy making any knowledge they have along any line contribute to the sentences they give. **(See Original Work under Written Work in this Course of study, p. 97)**

5. Written work. "The effort to write not only makes clearer what is already more or less vaguely known but develops new thought."

"Writing has an indirect but very considerable effect upon the speech. * * * That their seech may be truthful and convincing we have pupils write."

"All tendencies to use poor or scrappy paper, to offer slovenly manuscripts, to scribble and throw off careless work needs to be firmly and quietly rebuked."

a. Preserving children's work. It would contribute greatly to improvement in language teaching if it were the custom for every county superintendent and supervising teacher to ask a country teacher to show them the language books in which the children of the intermediate and upper classes keep much of their written language work. Such books might well count towards the diploma examination in language and grammar. Children should preserve much work of which but one draft is made and they should always preserve the second draft of compositions having two drafts.

b. Blackboard work. Besides this work on paper there should be considerable written blackboard work.

"The desire of the child is to share his experience with every member of the class. A blackboard exercise is the only adequate means of accomplishing this end. Then, in addition to the exchange of experiences, there is an opportunity to correct errors in sentence structure, punctuation and spelling."

c. Comparisons. A question which should frequently be asked as the children examine blackboard work which has been dictated by them for the teacher to write, or which they have written on the board themselves, is this: "Which arrangement is better, this or that?"

d. Discovering errors. When a pupil has been led to try to find his errors in order to do better next time, the battle is more than half won. After a pupil has found as many of his own errors as he can find quickly, let other pupils mention the errors they notice.

e. The recitation period. Some of the written work at the seats should, like the blackboard work, be done during the recitation period. Let the teacher pass around, placing a check in the margin wherever she sees a mistake. This check indicates to the

pupil that he is to read the line or lines to see if he has not made an error in the writing of the sentence, in the spelling of a word, etc. When the teacher returns a few minutes later the mistake is often corrected. A period and a capital may have been inserted, thus showing that the pupil has "a sentence sense"; or the missing word may have been supplied, etc. Again, let the children write undisturbed for ten minutes at their seats. Then let the teacher give a signal which indicates to the children that they read what they have written and find their own mistakes. The aim in written work is not to have papers containing a number of mistakes carefully corrected by the children after the teacher has found them, but to have the papers come to the teacher reasonably free from mistakes.

f. Writing for a reader. It helps greatly in securing a high standard of written work if each pupil writes with a reader in mind. Devise some plan of exchange so that many compositions come to the teacher after they have been corrected by a pupil. Every such composition has satisfied two pupils: the writer and the pupil reader. Each one of the two is responsible for its freedom from gross errors.

g. Kinds of written work. Written work is of three kinds:

a. That done with a book open. The book may be a text in language, reading or geography, or a library book—in fact any book designated for the purpose:

(1) Words, phrases, sentences, etc., may be arranged in columns, or a certain number of sentences found which fulfill certain requirements. (See Seat Work for the Language Classes, p. 98.)
(2) A paragraph may be condensed from a page.
(3) Sentences may be changed by the pupils:
  (a) From one number, tense, etc. to another.
  (b) From a sentence of three or four words to a sentence of seven or eight or more words by introducing descriptive words, phrases, etc.
  (c) By taking a sentence which serves as a type of correct usage, preserving the troublesome word but changing other words.
  (d) By choosing one of two words suggested and writing the sentence with the preferred word.
  (e) By so rewriting book sentences as to secure variety of statement by introducing synonyms, antonyms with "not," a change in the order of the words, comparisons, etc.
(4) Paragraphs may occasionally be copied just as they are printed—"printer's copy."
(5) Descriptions of pictures or stories based on pictures may be written.
(6) Quotations, bits of conversation, etc, which have especially pleased the compiler may be copied. Each pupil will have his own choice passages.
(7) Figures of speech may be copied.
(8) Book sentences may be consciously imitated in form but the material chosen as the subject may be new.

(9) A story or a chapter or an oral or written composition may be outlined.
(10) Letters which illustrate charm and courtesy may be copied from a variety of sources.
(11) Answers may be written to such questions as the following on a reading lesson:
(a) Name the different persons who come into the selection and tell what each does.
(b) What do others say about the chief characters?
(c) What do the chief characters say about themselves? How do their actions agree with this?
(d) How much space, comparatively, has the author given to his description of different characters? Why?
(e) Which paragraph introduces each character?
(f) In which paragraph do we find the best description of each character?

Beginning with third year at least, children should make exact copies of the poems which they are asked to commit to memory. These poems should be preserved in a book kept for this purpose only, and preserved throughout their elementary school course.

b. Exercises without a book, which are chiefly reproductive:

(1) Writing from memory a particular stanza or stanzas of a poem; write the stanza of "Good Night and Good Morning" beginning with "She did not say to the sun good night."
(2) Writing from memory the whole of a fable or short anecdote.
(3) Writing from memory a paragraph or two from a longer story.
(4) Writing from memory a conversation heard or an experience shared by the writer.
(5) A description of a person, or building, or flower, etc., known to the writer.
(6) An explanation of how to do something that the writer has done.
(7) The ten most important news items for the month.
(8) The answers to such questions as the following on reading lessons:
(a) In what way are any people you have known like any of the characters in this story?
(b) How does.....in this selection compare with.....in another selection?

c. Original work—Exercises without a book which develop and test chiefly the pupils' power to imagine:

(1) A list of original sentences to illustrate the use of certain words.
(2) A copy of a letter which was sent.
(3) A daily diary kept for a week.
(4) An original poem.
(5) An autobiography impersonating a postage stamp, or a broom, or a table, or a robin.
(6) Imaginative settings for sentences or proverbs (p. 71–72).
(7) An attempt to persuade a grown up person to let the writer have certain privileges, etc.

(8) Puzzles copied from magazines and solved.
(9) Finishing stories begun in class (p. 72).
(10) Forecasting events (p. 72).
(11) The answers to such questions as the following on a selection studied in reading or on a library book read:
(a) What did the author think of.....in this selection?
(b) What was the author's mood when he wrote this?
(c) What kind of man do you think wrote this?
(d) Why did the author say.....?
(e) Why did the author name so many places in this selection?
(f) If you were writing this would you.....?
(g) What would you have done if you were.....?

7. Letter writing. "We can become good letter writers by gathering all manner of riches into our lives; by reading letters of the best letter writers; and by practicing the writing of good letters."

"A letter perfectly correct in form may be without value; whereas a letter which bears the imprint of the writer's mind and heart is above price."—From Calloway Studies for Letters.

a. Its interest for children. Letter writing is a form of composition that appeals to all children. They see a reason for it. The father and the mother write letters and consciously or unconsciously it is impressed upon the children that letter writing is an essential element in their education. While other forms of composition may be looked upon as tasks to be accomplished because set by the teacher, letter writing can be made a pleasure particularly if freedom of choice as to subject matter is allowed. Children should write real letters to real persons and mail every one if that be possible. No soldier is interested in "firing his ammunition into the void." With a few suggestions children become eager to talk and write about what concerns themselves, their personal experiences, occurrences at home, their friends, playmates, their holidays and vacation happenings, all of which can be made to contribute to the idea of freely expressing their own thoughts in their own way, which is one of the highest aims of education.

b. Standards in letter writing. Once a month is not too often to have children in the intermediate and upper classes write letters. There should be gradation and variety in length, subject matter, kinds of letters etc. Before a pupil leaves the sixth grade, correct headings, placing and writing of salutations, complimentary closings and signatures should have become automatic.

No one should receive a diploma from an elementary school who has not the consciousness that he can write easily, quickly and correctly an interesting letter.

8. Seat work for the language classes. The illustrations given below indicate how pupils beginning with the third or fourth grade may examine texts in reading and later in geography, history, and hygiene to find certain definite things. All have been taken from texts in common use. This form of educative seat work will help

children to see groups of words as units; will get them acquainted with the correct forms of troublesome words; will give them a standard for their own sentences and, above all, will enlarge their vocabularies.

The teacher should start the work in class and should give the page on which children will find "three groups of words containing *of*," or "five expressions containing *and*," etc.

When pupils reach the fifth grade, they may often be asked to adapt or condense the book sentences before they copy them to illustrate the correct use of different words. Some of the sentences in these illustrations have been so adapted or condensed.

These lists should be added to from time to time as pupils find suitable expressions. It is well to have the pupils' progress reported occasionally and the lists made by different pupils compared. The lists should be closed only after a more or less extended period of time.

a. A descriptive word and a noun

friendly earth	a docile hound
gracious God	whole-souled honesty
curious flight	wandering bee

b. Two descriptive words and a noun

lowly thatched cottage	gourd water vessels
lofty elm tree	a highborn respectable tree
a little old man	a rosy dark-eyed child

c. Expressions ending in words with the suffix *ly*

tucked in firmly	trembled secretly
had eaten slowly	looked at her inquisitively

d. Expressions beginning with words in *ly*

extremely slow	successfully treated
conveniently low	

e. Expressions containing *off*

chipped off a few flakes	slipped it off almost whole
peeled off large pieces	sailed off in a wooden shoe

f. Expressions containing *of*

outcries of fright	basket of popcorn
a day of thanksgiving	place of refuge
bowl of stew	a corner of the rug
kinds of game	lining of the nostril
roasts of deer	rings of cartilage

g. Expressions containing *in*

a commotion in the pool	blowing in the right direction
a hand in the matter	in a sorry plight

h. Expressions containing *with*

pale with alarm	combats with wild beasts
loosen with hammers	touched it with their foreheads

i. Expressions containing *for*

trophies for the bravest man	ready for questions
a crumb for a robin	died for lack of oxygen

j. Two nouns connected by *and*

cries and fears	fern and moss
lords and ladies	king and queen
whoops and yells	sailing and shining
snow and ice	stories and plays
wrong and evil	

k. Expressions containing two descriptive words joined by *and*, and a noun

a dangerous and wicked business
slow and difficult task
a haughty and disagreeable temper
a careless and lazy maid
a long and thin nose

l. Two or more words joined by *or*

a walrus or hippopotamus	a ventilator or a fireplace
disorderly or untidy people	live or go

m. Sentences to illustrate characteristic actions of animals

the rabbit scurried away
The pigs came grunting to his feet
The frolicsome yearlings frisk and jump
A dog prowls about
The cat goes cavorting around.

n. Pronouns after *It was* or *than*

It was he who discovered the first known of the five great lakes in 1615
It was we who looked abroad on foreign lands.
There is no one in the world wiser than she.

o. Possessive plural

And all around I heard you pass
Like ladies' skirts across the grass.
In the bakers' windows are bears made of gingerbread.

p. Comparisons

More rapid than eagles his coursers they came.
His cheeks were like roses; his nose like a cherry.
And the smoke it encircled his head like a wreath.

q. To illustrate *their*

Visions of sugar plums danced in their heads.
These are my children and I am their mother.

r. To illustrate *too*

Let me speak a word, too.
The tear tube is there, too.
The bristles should not be too near together.

s. Sentences expressing negation

The ugly duckling is doing no harm.
The mosquito lays no eggs in the soil.
There were no birds or flowers in the woods.

t. The objective form of pronouns

Was this asbestos sent from Canada for you and me?
The city should secure pure water for them and us.
The germs cannot be seen by her or me.

u. Uses of *lie*

All the toys beside me lay.
The golden key was lying on the glass table.
I was stiff from lying so still.
The brownie lay at ease until daybreak.

v. The apostrophe to denote possession

Hiawatha's canoe was made of the bark of the birch tree.
Champlain's enemies were pleased to have the Iroquois hate him.
Grandmother's cap I spy.
The river was the sky's blue looking glass.

IV. TESTS AND EXAMINATIONS

Since the character of the diploma examination has a great influence upon work done in the school, it is important that the questions asked by the superintendent be of such a nature that they will lead teachers to place emphasis upon the proper kind of language work. Too often the questions deal largely with technical grammar, with the result that the teachers lay an undue stress upon that phase of language study. As a general rule it may be safely stated that out of 100 points in a language examination not more than thirty should be based upon the work in grammar.

To test language power is not an easy task in the diploma examination. Several phases of the language work ought to be considered in determining the standard that should be set for graduation.

The county superintendent and the supervising teacher should take note of the oral language work done in the different classes of the school. It would be well to speak to the school regarding the importance of this work and thus emphasize it in the minds of both teachers and pupils. Attention should also be called to the importance of good written work. As has been suggested, it would be an incentive to the children if their written work were looked over by the superintendent and supervising teacher and appropriate comments and suggestions offered.

The examination itself should emphasize the importance of good language work in all school subjects. Some account should be taken of the pupil's ability in the use of language as shown in the manuscript on a subject like history or geography.

When a pupil finishes the common school he should have the ability:

1. To write ordinary business and friendship letters and other necessary business papers.

2. To use the punctuation marks and capital letters needed in ordinary written work.

3. To write from dictation, ordinary prose containing subject matter about which he has studied.

4. To outline topics found in the subjects studied and to write simple compositions from such outlines.

5. To give from memory selections of poetry. (It is suggested that each county superintendent select a minimum list for his county.)

6. To write in good English well-known stories, giving proper attention to paragraphing.

7. To recognize, by giving name and artist, at least twenty-five famous pictures.

8. To use a reasonably adequate vocabulary.

9. To use habitually the correct forms set forth in the course of study under *mechanics of language.*

10. To construct sentences illustrating the elements outlined in the grammar course.

11. To apply and illustrate the rules of syntax taught in the grammar course.

12. To analyze sentences that are not too complicated and that do not involve elements not studied in the grammar course.

13. To use the dictionary.

14. To use the books in the library.

Examination questions should be so formulated that they will test the pupil's language power, not simply his knowledge of technical constructions.

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VI. LANGUAGE OUTLINE

(See suggestion given at bottom of page XIII.)

I. General Suggestions
- 1. Functions of language
- 2. Motives
  - a. Literary society
  - b. Special programs
  - c. Letters
  - d. Home work
  - e. School paper
  - f. Diary
  - g. Local papers
  - h. Booklets
  - i. Desire to excel
  - j. Preservation of work.
- 3. Correlation
- 4. Oral language work
- 5. Written work
- 6. Language habits
- 7. Phases which need constant attention
- 8. Tests of a good language text
  - a. Significant topics chosen
  - b. Good models
  - c. Correct forms
  - d. Children's experiences
  - e. Vocabulary work
  - f. Letters
  - g. Conversational exercises
  - h. Dictation
  - i. Deferring of grammar
  - j. Inspiration
- 9. County uniformity in stories, poems, and pictures
- 10. Library reading
- 11. Use of dictionary

II. Course of Study

First and Second years
- 1. Oral work
  - a. Conversational exercises
  - b. Pictures
  - c. Reproduction and list of stories
  - d. Dramatization
  - e. Study of poems
  - f. Vocabulary work
  - g. Complete statements
- 2. Written work
  - a. Tracing
  - b. Copying sentences used in the reader
  - c. Copying sentences composed by children
  - d. One use of capital and period taught by copying
  - e. Look and write
  - f. Dictation
  - g. Four other uses of capitals
  - h. Punctuation marks
  - i. Outlines for poetry
  - j. Original work
  - k. Composite stories

3. The mechanics of language
    a. A, an
    b. Is, are, was, were
    c. Pronouns after verbs
    d. May and can
    e. Saw, seen
    f. Am not, etc., for aint

Third and Fourth years

Introduction

1. Oral work
    a. Conversations
    b. Picture Study
    c. Reproductions and lists of stories
    d. Poems
    e. Dramatization
    f. Vocabulary work
2. Written work
    a. Joint compositions
    b. Long compositions avoided
    c. Apostrophe to show ownership
    d. Dictation exercises
    e. Writing poetry from memory
    f. Quotation marks
    g. Letter writing
3. Lessons on the mechanics of language
    a. Reviews
    b. Homonyms
    c. Correct use of irregular verbs
    d. Common errors
    e. Singular and plural forms

Fifth and Sixth years

1. Oral work
    a. Conversation
    b. Pictures
    c. Outlines
    d. Vocabulary work
    e. History and other stories
    f. Library reading
    g. Poems
    h. Literary societies
    i. Forms of composition
2. Written work
    a. Short written compositions
    b. Letter writing
    c. School Journal and programs
    d. Paragraphing
    e. Pupils' own experiences
    f. Dictation
    g. Writing poetry from memory
    h. Booklets
3. Lessons on the mechanics of language
    a. Reviews
    b. Correct use of irregular verbs
    c. Pronunciation
    d. Correct use of adjectives
    e. Correct use of adverbs
    f. Correct use of pronouns
    g. Correct use of prepositions

Seventh and Eighth Grades
1. Oral exercises
    a. Regular recitations
    b. School library books
    c. Book reports
    d. Vocabulary work
    e. Poems
    f. Pictures
    g. Editing a school paper
    h. Literary society
    i. Short talks
2. Written work
    a. Adjusted to pupils' needs
    b. What written work should include
        (1) Writing from outlines
        (2) Relation of outline headings to paragraphs
        (3) Finding subjects of paragraphs
        (4) Encouraging individual correction
        (5) Business practice in arithmetic
        (6) High standards in penmanship
3. Lessons on the mechanics of language (Grammar)

Grammar
1. Reasons for dislike of grammar
    a. Study is begun too early
    b. Too exhaustive a study made
    c. Textbooks are too difficult
    d. Pupils' progress is too rapid
    e. Practical value is not seen
2. When the study of grammar should begin
3. Suggestions for 8th grade work
4. Source of illustrative sensences
5. Divisions of time between grammar and composition
6. Diagraming
7. Textbooks
8. Use of the dictionary
9. Suggestive outline for teaching grammar
    a. Subject and predicate
    b. Verbs
    c. Singular and plural nouns
    d. Pronouns
    e. Verb phrases
    f. Adjectives
    g. Adverbs
    h. Discrimination in use of adjectives and adverbs
    i. Adjective phrases
    j. Adverb phrases
    k. Different uses of pronouns
    l. Compound subjects and conjunctions
    m. Compound predicates
    n. Predicate adjectives
    o. Predicate nouns
    p. Predicate pronouns
    q. Rules for personal pronouns
    r. Direct objects
    s. Indirect objects
    t. More rules for use of pronoun
    u. Who, whose, whom
    v. Nouns and pronouns in apposition
    w. Possessives

x. Nouns of address
y. Position of modifiers
z. Correct use of negatives
aa. Care in selecting prepositions
bb. Principal parts of verbs
cc. Adjective clauses
dd. Relative pronouns
ee. Adverb clauses
ff. Noun clauses
gg. Compound sentences
hh. Summary of rules

III. Suggestions with Regard to Particular Phases of the Work

1. Vocabulary work
   Introduction
   a. Literature as a source of words
   b. Study of synonyms
   c. Acquaintance with definite words
   d. Prevention of slang
   e. Typical exercises
   f. Puzzles

2. Picture study
   a. Love of pictures
   b. List given in this course
   c. Classification of pictures
   d. Treatment of picture study
   e. General outline
      (1) Picture as a whole
      (2) Relation of characters to one another
      (3) Incidents in artist's life bearing on the picture
      (4) Means employed by artist
   f. Reference books
   g. Artists represented
   h. Picture collections
   i. Catalogs

3. Poetry
   Introduction
   a. General method for use
      (1) Preparation of minds of pupils
      (2) Building of pictures by explanation, etc.
      (3) Circumstances of the writing
      (4) Presentation of poem
      (5) Assignment
      (6) Committing to memory
   b. Preparations necessary
   c. Collections of poetry

4. Original work
   Introduction
   a. Imaginative settings
   b. Application of proverbs
   c. Original poems
   d. Forecasting
   e. Pupils' sentences
   f. Typical sentences

5. How to manage written work
   Introduction
   a. Preserving children's work
   b. Blackboard work
   c. Comparisons
   d. Discovering errors
   e. Using the recitation period for writing
   f. Writing for a reader

6. Kinds of written work
   a. With the book open
      (1) Column work
      (2) Condensing a paragraph from a page
      (3) Changing sentences
      (4) Copying paragraphs
      (5) Describing pictures
      (6) Copying quotations, etc.
      (7) Copying figures of speech
      (8) Imitating book sentences
      (9) Outlining stories, etc.
      (10) Copying letters
      (11) Answering questions on a reading lesson
   b. Memory exercises without a book
      (1) Writing poetry
      (2) Writing fables
      (3) Writing paragraphs from a story
      (4) Writing conversations
      (5) Describing a person, etc.
      (6) Explanations
      (7) News items
      (8) Answering questions on a reading lesson
   c. Original work
      (1) Illustrative sentences
      (2) Letters
      (3) Diaries
      (4) Poems
      (5) Autobiographies
      (6) Imaginative settings
      (7) Exercises illustrating persuasion
      (8) Solving puzzles
      (9) Finishing stories
      (10) Forecasting events
      (11) Answering questions on reading lessons

7. Letter writing
   Introduction
   a. Its interest for children
   b. Standards in letter writing

8. Seat work for the language classes
   Illustrations of typical work
   a. A descriptive word and a noun
   b. Two descriptive words and a noun
   c. Expressions ending in adverbs
   d. Expressions beginning with adverbs
   e. Expressions containing *off*
   f. Expressions containing *of*
   g. Expressions containing *in*
   h. Expressions containing *with*
   i. Expressions containing *for*

j. Expressions containing descriptions
k. Two nouns connected by *and*
l. Two or more words joined by *or*
m. Sentences to illustrate actions of animals
n. Sentences containing pronouns
o. Possessive plurals
p. Comparisons
q. Expressions containing *their*
r. Expressions containing *too*
s. Sentence expressing negation
t. Objective forms of pronouns
u. Uses of *lie*
v. Expressions containing a possessive

IV. Tests and Examinations
Introduction
1. Letters
2. Punctuation marks and capitals
3. Dictation work
4. Outlines
5. Writing poetry
6. Writing stories
7. Acquaintance with pictures
8. A reasonably adequate vocabulary
9. Habitual use of correct forms
10. Illustrative sentences for grammatical forms
11. Acquaintance with rules of syntax
12. Analysis of sentences
13. Use of dictionary
14. Use of library books

V. References
Eleven books

WRITING

I. GENERAL SUGGESTIONS

1. Purpose of work. Good writing in school depends largely upon the method of teaching in the lower classes. If the pupils have been started correctly and have been given to understand the importance of the vital things in writing, they will leave the school with the ability to write an easy, free, legible hand. The purpose of the work in writing is essentially the same in all schools and in all classes, namely, to acquire the ability to write legibly, neatly, rapidly and with power of endurance. The importance of proper materials, position and movement cannot be overestimated, especially in the middle and lower classes. These three things form the basis of good writing and are briefly discussed below. Without any one of them, good results cannot be obtained.

2. Materials. The materials used in writing are very important. A good grade of paper of sufficient weight should be used so that the ink will not spread. It should be of the ordinary business letter size 8½"x11" ruled so that both sides may be used.

The penholder should be large and straight, with either cork or rubber tip. The metal tip holder should not be used. Pens should be large and coarse, especially for the pupils in the lower and middle classes. Any of the standard inks will give excellent results. Never allow practice with poor pens or poor paper. It is better not to practice at all than to practice with poor materials.

3. Position. Have the pupils sit squarely in front of the desk, or have the right side a little nearer the desk than the left, so that the line of vision is nearly parallel with the edge of the desk. The feet should rest on the floor, the left one slightly in advance of the right. The body should incline forward from the hips. The back should not bend, nor should the shoulders be permitted to droop, as a healthful position is especially desirable. The head should not incline to either side. This should be watched very closely. The left arm should be placed on the desk to bear the weight of the body. The right arm should be placed on the desk so that the right and left should come together in front of the body, forming a right angle. Close the right hand so that the tips or the first joints of the

fingers rest on the desk. When this is done we have the correct position for free, muscular writing. The holder should be placed between the thumb and the first two fingers and point a little to the right of the right shoulder. Care should be taken to have the desks properly adjusted and cleared of everything except the writing material.

4. Movement. Muscular movement is absolutely essential to good writing. Place the arms on the desk as described in the preceding paragraph, and close the fingers of the right hand tightly. See how far the pupil can move the arm in and out of the sleeve without slipping the sleeve on the desk. The movement should always be to and from the body. A slight rolling motion is given to the muscles of the forearm. This movement practice with the hand closed for a few days will gradually loosen the muscles of the arm. After this movement has been developed, gradually open the hand to about the position in writing and place the holder in position as described and the pupil is ready to begin to use the pen in movement drills.

5. Form. In all penmanship practice we must not forget that the study of *form* is just as important as the mastery of movement. The mind must have a clear conception of the form of the letter before the hand can be expected to make it. The mental picture is formed by the study of a good copy either on the blackboard or on paper. When the pupil has formed the right conception of the form and has mastered the movement, his progress becomes rapid. He has an ideal. His interest increases and he takes pride in his work. Great care must be taken, however, in the transition from the movement drills to the writing of words and sentences lest the pupil get into the habit of using the finger movement. No movement whatever is required by the fingers except that which is needed in holding the penholder.

6. Style of writing; copy books. The slant style of writing should be taught. A slant of 75 to 85 degrees is the most natural one. It will vary with different pupils and no exact slant can be followed in all cases. A reproduced pen-copy should be before the pupils at all times. Copy books in which practice matter is to be written are not recommended.

7. The writing period. There should be a regular period for writing. During this period the teacher should give her whole attention to the exercise and not conduct a class in some other subject. No music teacher would think of doing some other piece of work while a pupil is at her side to receive instruction. Penmanship, like piano-playing, depends on muscular control. One exercise requires the teacher's guidance as much as the other. Occasionally a longer period may be taken for this work. When the teacher has a series of exercises to be practiced, a half hour on

Friday afternoon can be profitably spent on this subject. Parents will not object to extra time spent in writing practice.

8. Planning the work. Enthusiasm is necessary to secure good results in this subject as well as in any other. The ordinary time-killing exercise results in poor writing rather than in improvement. The work should be planned for the writing period as well as for any other school exercise. There must be a definite aim in each lesson. Do not attempt too many things in one exercise. The writing should not be allowed to deteriorate into merely "drawing the letters."

9. Outside practice. After the pupils have become accustomed to the correct position (3) and the position has become a habit, and after they have acquired the proper movement (4), they should be encouraged to practice outside of the regular writing period. If this preliminary work has been well done and the pupils have become enthusiastic over the subject, this practice will become good "seat work." Care should be exercised, however, not to have pupils practice much without supervision until correct position and correct movement becomes habitual.

The larger pupils may also be encouraged to practice at home. They should, however, be reminded of the fact that the writing done at home should be just as carefully done as that done at school, as it is very easy to acquire bad or careless habits when practicing without supervision. The materials used in practicing should be good, the table should be of the proper kind, and the light should be good. Specimens of writing done at home may be brought to the teacher for suggestions. The exercises practiced at home should be those studied at school.

10. Contests. Writing contests, if properly conducted, are incentives to progress. In such contests consideration should be given both to legibility and rapidity. Take, for instance, some exercise that they have been practicing, as the word "man." When they have learned to write the word well, see how many times they can write it in a minute. Take the watch. Ready, write ..... time up. Collect papers. Make suggestions on their papers and return them the next day. Use various devices to add interest. Sometimes competition may be established among neighboring schools.

11. Writing exhibits. Do not neglect to compliment pupils on *progress* made. Do not exhibit only the *best* work. Show the improvement some poor writer has made during a certain period of time. Note especially the progress that has been made in *certain* letters on which the pupil has practiced. Place some of the writing on the walls of the schoolroom and let the pupils inspect it. In this way they will have a chance to compare one another's work and receive many suggestions.

12. Writing is thought-expression. Writing should not be thought of merely as a mechanical process; it is *thought-expression.* The mechanics of writing, like the mechanics of reading and the mechanics of language, is but the means to an end.

Remember that written work in spelling, written work in language, as well as written examinations of all kinds, are exercises in penmanship. Do not give the pupils more of this work than they can do well.

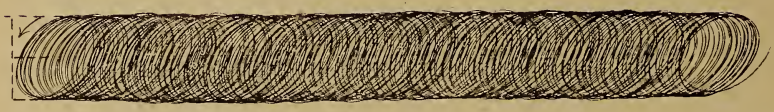
13. Suggestive drill exercises. (Copies reduced one-third.)

Exercise 1

Exercise 2

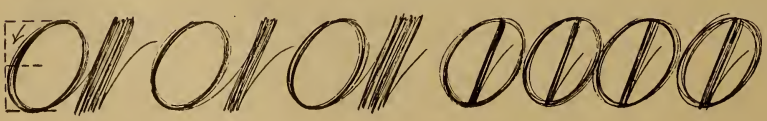
Exercise 3

Exercise 4

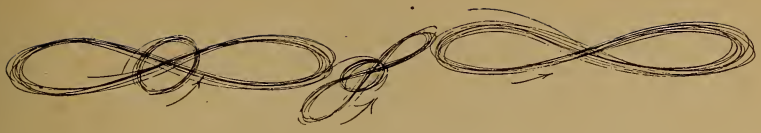


Exercise 5

Exercise 6



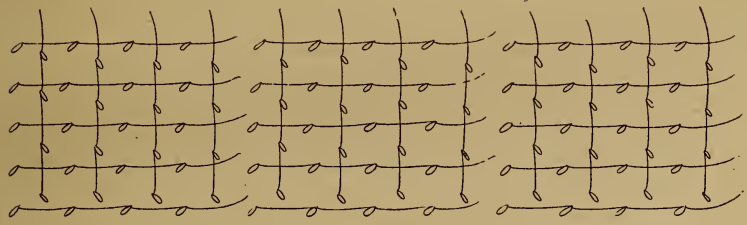
Exercise 7



Exercise 8

mmmm mmmmm mmmmm
mmm mmm mmm
uuuuu uuuuu uuuuu
uuuu uuuu uuuu

Exercise 9



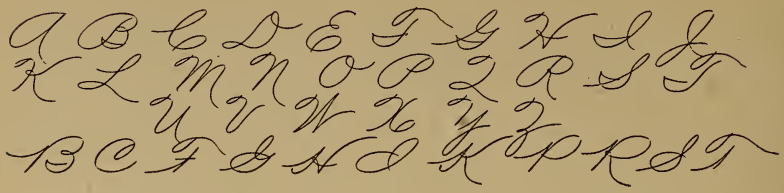
Exercise 10

aaaa ddddd ggggg qqqqq
added aging good quote
lllll hhhhh kkkkk fffff
billing high kick fulfill

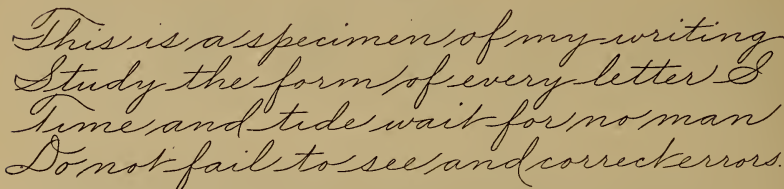
Exercise 11

a b c d e f g h i j k
l m n o p q r s t u
v w x y z — p r s d d
1 2 3 4 5 6 7 8 9 0 — $ ¢ % & # @ ¢/o

Exercise 12



Exercise 13


This is a specimen of my writing
Study the form of every letter
Time and tide wait for no man
Do not fail to see and correct errors.

II. COURSE OF STUDY

1. First Exercises. The first work in the lower grades (or in any grade if pupils have not mastered the fundamentals in position and movement) should be the study of position, the development of movement, and pen or pencil holding without any strokes on paper. This movement should develop freedom or elasticity in the muscles in the arm without permitting the pencil to touch the paper. During this period (of about three or four weeks) pupils should be made to understand that the correct position should be assumed and the muscular movement should be used whenever any written work is being done.

2. Counting to secure speed and uniform movement. The next step is to apply the above movement in writing the up and down straight line exercises (Numbers 1 and 2) and the oval exercises (Numbers 3, 4, 5, 6). In practicing these exercises it is well for the teacher to count one for each downward stroke to get the speed and movement uniform. Two or three weeks or even a month should be devoted to these exercises. Use pencil in the lower grades, and pen in upper grades. The time spent will depend somewhat on the success the teacher has had in developing the free and easy movement required in writing these exercises. When these can be written with fair skill in correct position with correct movement, easy words beginning with small letters should be practiced. The pupil that can make the straight line and oval exercises with correct movement, can write such words as: me, mine, nine, noon, etc., and others no more difficult. The writing in the

primary grades will naturally be quite large but will become smaller as the pupils gain in proficiency.

3. Studying the form of the letters. An exercise to develop lateral movement can be practiced very advantageously about this time. (Number 7.) During this practice work the teacher should illustrate all these movement drills and words on the blackboard in order to develop the conception of form. It would be well to have the primary pupils write on the blackboard as an aid in developing the form in the mind. A brief explanation of the form of the letter and how it should be written will also aid materially in developing this mental picture. See reading, p. 4.

4. Use of blackboard. Considerable time should be spent with the primary pupils in the writing of figures. Much of this work can be done by the pupils on the blackboard copying models written by the teacher. The blackboard work, however, is only an aid in developing the conception of form, and does very little good in the development of movement or in writing with a pen or pencil.

5. When to use the pen. Whenever the pupils are able to maintain correct position and have developed enough automatic muscular action to make the direct slide and oval drills (Numbers 1, 2, 3, 4, 5 and 6) at considerable speed, coarse pens and ink should be used instead of pencils. Pens discourage the employment of heavy motion which pencils encourage. It would be well, in the first four grades, to teach all the letters of the alphabet, both small and capital, so that the pupils can use them in any supplementary work that may be desired by the teacher. In teaching the small and capital letters, those requiring about the same movement should follow each other; that is, l should be followed by f, b, h and k, each requiring practically the same movement.

6. Group letter drills. To develop lateral motion, various group letter drills should be introduced for frequent practice, the small "m" in groups of three or four (Number 8), and the small "o" in groups of four or five (Number 9). Words and sentences should be practiced quite extensively from now on in this work.

7. A preliminary movement drill in every writing exercise. The first few moments each day at the beginning of the writing period should be devoted to some of the movement drills. Just as a short drill should precede arithmetic or reading, so a short preliminary movement drill should precede every writing exercise.

8. Different results from pupils of various ages. The above line of work may be done in each class. It is not too difficult for primary pupils, but we must not expect too much of them. If this work is given to all pupils, the teacher must be satisfied with corresponding results. In the upper grades, of course, more attention should be devoted to sentence and page writing.

9. Individual help. Advance little and review much, remembering that an exercise is valuable only as it is mastered. Supplement the practice work with blackboard work, explaining and studying the forms of letters, both small and capital. During the practice of movement drills, words and sentences, the teacher should give special attention to the needs of the individual pupils, passing from desk to desk, noting faults and offering suggestions for improvement. The teacher should see that each pupil always does the very best and neatest work of which he is capable and should accept nothing short of that. Careless and indifferent practice is worse than no practice. The work of the teacher, however, must be such that it is a good model. Any carelessness or indifference on the part of the teacher will have a like effect on the pupils.

10. Filing specimens of penmanship. The teacher should require each pupil to hand in a page of his best writing at least once a month to be filed for reference. Each month the specimen should be compared with his previous work to note progress. In the upper classes more advanced and specialized work may be done on the various forms of letter writing, and business papers.

III. TESTS FOR GRADUATION

1. The pupil should be able to write legibly, neatly, and rapidly, in good form for some considerable time without fatigue.
2. He should use the forearm movement in all written exercises.
3. He should be able to point out the excellencies and defects in movement and form of letters of other pupils.
4. He should have formed a taste for good writing material.

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ARITHMETIC

I. GENERAL SUGGESTIONS

1. The primary condition of good work in arithmetic is the mastery of the fundamental operations to such a degree that children will not have to labor over the processes of addition, subtraction, multiplication, and division in the solution of problems. Only when they have a thorough mastery of these operations can they give their entire attention to the reasoning processes involved. To this end children should thoroughly memorize the addition, subtraction, multiplication, and division tables so that they do not have to resort to counting on their fingers and to various other devices made necessary by the lack of instantaneous knowledge of the combinations.

2. The teacher must constantly keep in mind that teaching the child is of greater importance than teaching the subject. Arithmetic should be used as a means to develop the child's powers so that he may know how to proceed in the solution of problems involving the use of numbers.

That children differ in their ability to master arithmetic should be kept in mind in teaching a class. Some children need more drill than others. Some children are able to work more difficult problems than others or they are able to work more rapidly. In such cases one group may sometimes be taken for special drill while another group is given other work. *It is not necessary that all children be equally proficent in all phases of school work.* All children should master the minimum essentials,—those facts, processes, and applications which one needs to know and use in pursuing the ordinary affairs of life, but those who have special aptitude for mathematics may, with profit, be given extra exercises and problems. For such work special recognition should be given in some form.

3. In all arithmetic work the teacher should be sure that the children understand the meaning and application of the terms they are using. To aid them in getting accurate ideas, objects should be used whenever necessary. *When these objects have served their purpose, their use should be discontinued. This is true for all grades of work.*

4. A teacher should beware of going to either extreme in the matter of helping children with their work. The child should develop independence and initiative. Too much help on the part of the teacher brings about an attitude of helplessness and dependence. On the other hand, if too little help is given, discouragement, and even despair, may be the result.

5. When a new topic is taken up, the knowledge that the child already has relating to that topic should be assembled so that it is fresh in his mind. This preparatory step does much in building up a solid foundation for the new material. Very often the new subject is in this way recognized as another phase of a well-known subject and is mastered easily and quickly.

Do not assign exercises for seat work unless the principle underlying them has been carefully developed in the class. In teaching some of the processes it may be necessary to have class teaching for several days before problems dealing with that process are assigned for seat work. Also give the children some practice at the blackboard to ascertain whether they have mastered the essentials of the process. If a large number of the children are not able to do correctly the work assigned, it is evident that somewhere there has been insufficient or ineffective teaching. It is a mistake under such conditions to give additional seat work of the same kind before the causes for the failure have been discovered and the difficulties removed.

What has been said of seat work is equally true of home work. *As a rule very little arithmetic need be assigned for home work outside of securing data for practical problems.* The assignment of involved difficult problems for home work, such work often necessitating long written explanations, is a violation of the principle of hygiene and does much to bring school work into disrepute among practical people.

6. In arithmetic, as in other subjects, the teacher should plan the work in such a manner that the pupil in his study forms good habits. Here again is seen the importance of proper assignment,—that is, giving the child for practice, processes with which he is familiar. Accuracy, in thought and computation, neatness in written work, and a reasonable speed in doing the work are habits which arithmetic can particularly foster. In order that these habits may be formed the work should at all times be kept within the child's comprehension and ability.

7. Arithmetical knowledge should be utilized whenever possible in other subjects, such as geography, civics, sanitation, history, etc.

8. Except in purely mechanical exercises the arithmetic work should be, as far as possible, related to or based upon actual conditions in life. In our day when there is so much useful and vital

information to be had, the schools should eliminate the non-essentials and give the children those things which will be of greatest service to them. These practical life problems should form the basis for the arithmetic work in all the grades.

The application of the principles of arithmetic to everyday affairs of life is the most important part of the work. If this phase of the work is well done it reacts favorably on the pure arithmetic work itself. Besides, unapplied arithmetic is easily forgotten.

As a part of the regular arithmetic work throughout the whole course the children should be trained in making actual measurements and computing results from data obtained. They should also be trained in securing from textbooks, library books, or other sources, information necessary to the solution of problems. Practice should be given in reading market reports. A price list of common commodities may be kept on the blackboard or bulletin board and revised by the pupils. In making original problems such data should be used.

Exercises in estimating distances, areas, volumes and weights should be given, such estimates to be verified by actual measurements. This practice gives the children an excellent training in judgment and develops skill in handling real situations.

9. Much of the success of the arithmetic work depends upon intelligent review. Many teachers leave a subject before it is thoroughly mastered and do not touch upon it again for some time. When they do return to it, the pupils give little evidence of having studied it. After a subject has been fairly mastered, review problems should be given from time to time. In this way not only is the subject kept fresh in mind but it is often seen in relation to other subjects studied and a greater mastery is thus secured.

At the beginning of a school year a thorough review should always be given of all the work that has been gone over. Individual weaknesses as well as class defects should be noted and additional practice and drill given wherever needed. It is useless to do advanced work if there are serious weaknesses in the work that is supposed to have been finished. Such a review should not consist in merely working the same problems that they had the year before, but other exercises should be given for the reason that this work is also to be used as a basis for teaching new topics. Some problems may be obtained from other textbooks. Original problems are especially good for review purposes. It is a good idea to have the children formulate problems for their classmates to solve.

10. Much of the success of the arithmetic work depends upon the teacher's ability to make the work *real* to the pupils. Just as dramatization is of value in language work so "acting out" business transactions helps to give the children clear and definite ideas regarding business practices. Such exercises also show to the chil-

dren the *practical value* of arithmetic. In the primary classes occasional exercises may be planned in which members of the class buy and sell small articles, paying for the same, making change, etc. In the upper classes a part of the year may profitably be given to business practice on a larger scale in which commercial papers of various kinds are handled in connection with the transactions. In this practice the children should also be taught to keep simple accounts.

11. Much attention should be given to mental or oral arithmetic in the upper classes. Practically every arithmetic recitation should be opened with an oral exercise. Some authorities say that one-third of the recitation is not too much to assign to it. (Kendall & Mirick.) In another book (McClellan & Ames) we find the following: "Mental arithmetic is the life and soul of rational method. It is firmly held that, compared with written arithmetic alone, mental arithmetic, if systematically taught, will produce at least twice the knowledge and twice the power in a given time."

By mental arithmetic is understood all work in which computation is not made with a pencil. It includes the rapid reading and interpretation of problems and the solution of problems without figures, as well as oral computation.

Pupils need to be given practice in the intelligent *reading* of problems. "Many lessons should be given in all grades in which many problems are studied * * * for practice in interpretation alone."—Kendall & Mirick.

12. Skill in arithmetic involves more than rapidity in computation. Besides this mechanical skill we should work for skill in the interpretation of problems and skill in the application of the processes and principles to the everyday affairs of life. This three-fold skill is essential to the mastery of the subject. (See Kendall & Mirick, pp 168–186.)

13. Drills, to produce the best results, should be varied and intelligent. They should be snappy and should not be unduly prolonged. A few minutes of intensive drill is sufficient as it is a mental strain and soon produces fatigue. Some of the most common and valuable forms of drill are the following:

a. Mental arithmetic. Both abstract and concrete exercises should be given.

b. Using the blackboard in drilling on the addition and multiplication tables, aliquot parts, percentage equivalents, fraction reductions, etc. Pupils give results as the teacher or one of the class points to the combinations. There are various modifications of these drills.

c. Perception or "flash" cards. Manila cards of convenient size containing number facts, such as combinations, aliquot parts, denominate number facts, etc., are flashed before the pupils. For study

purposes it is well to have the pupils use cards on which the answers are given. This prevents guessing and counting to get the answer.

d. Plays and games of various kinds, such as are usually suggested in primary arithmetics, can be used to give the smaller children facility in adding, multiplying, etc. In these exercises care should be taken that the play feature and the mechanism of the game do not crowd out the "arithmetic". The purpose of the work, which is instant recognition of the number fact, should ever be kept in mind.

e. There are many somewhat spectacular devices such as fish-pond, picking apples from trees, climbing ladders, etc. These should be used very little, as they often introduce elements which are distracting and add nothing of real value to the drill.

f. Playing dominoes is an excellent practice to develop skill in addition and the game might well be encouraged for the home. The children can make a set out of cardboard and this work in itself has an educational value.

g. The Courtis Tests, Thompsons Essentials, and the Studebaker Economy Practice Exercises are helpful, not only in enabling teachers to test their classes and the children to test their own progress, but they indicate to both teacher and pupils what facts need further drill.

The Courtis Tests are published by Dr. S. A. Courtis, Detroit, Mich., Thompson's Minimum Essentials by Ginn & Co., Chicago, and Studebaker's Practice Exercises by Scott, Forsman & Co., Chicago. Other tests which may be used are: Fassett's Standardized Number Tests published by Milton Bradley Co., Springfield, Mass., and Masons Self-Keyed Number Cards published by J. L. Hammet Co., Boston, Mass.

14. The tests and exercises introduce the time element, which is a valuable feature and should be incorporated into arithmetic work at all stages.

If the school is in possession of a hektograph, drill sheets of various kinds can easily be made. Pupils may help in making copies after the teacher has prepared the original draft. The value of the rapid work that can be done in the class by means of these sheets is evident.

Do not spend time drilling children on what they know. Drill on facts that need it.

15. It might be observed that *there is a point of efficiency beyond which it is not profitable to go in the matter of speed.* In this work the teacher must use judgment and not neglect some branch of school work, as, for instance, language, to develop an extraordinary skill in some phases of arithmetic.

It should be kept in mind also that it is unwise to subject nervous children to the excessive strain resulting from intensive contest work. A great advantage of the tests suggested is that each child

can measure his own progress, rather than try to compare himself with others who may not be in his class.

16. In order to develop the highest possible skill in the mechanical phase of arithmetic the children should be trained to take advantage of methods that will give the result most economically. Short methods, such as using aliquot parts, should be introduced and drilled upon whenever they are of advantage in calculation. The shorter and simpler the calculation, the more likely the result is to be correct.

17. Pupils should be trained in the orderly arrangement of their written work but it should not be overdone by requiring an undue amount of lengthy explanation and analysis. They should be trained to write neat figures and to arrange numbers neatly in columns. The writing of numbers should be drilled upon in the penmanship exercise and applied in all the written work of the school.

18. The blackboard should be utilized to its fullest extent. Classes should frequently be sent to the board for drill. The exercises to be given should be carefully prepared so that they will be adapted to the ability of the children. One great value of this work is that the teacher can discover at a glance individual weaknesses, and thus determine what pupils need extra help.

It is usually a mistake to stop in the midst of a blackboard exercise of this kind to teach a pupil who may need additional attention. The result of such a procedure is that some of the children are standing at the board without work and frequently cause trouble in discipline. All the pupils should be kept busy working problems until the exercise is over. The slow members should not determine the rate of speed for the rest of the class. Those who work rapidly should be given new problems as soon as they have finished. Each pupil should, as far as possible, be kept fully occupied at the rate of which he is capable.

The following suggestion is given regarding the management of the blackboard drill when classes are large. Number the pupils 1, 2,—1, 2,—around the class. Have two sets of examples on the board, set number 1, and set number 2. Have all pupils who are numbered *one* work the first example in set *one*, and all pupils numbered *two* work the first example in set *two*. When these are finished, the teacher, who has the correct answers on a card, nods her head to the pupil who has finished the example correctly. He erases and starts another. Soon the quick pupils are on the third examples and the slow ones may still be on the first. Every one is working at his greatest speed. As the examples are on the board the teacher does no talking. It is a quiet, inspiring atmosphere in which much is accomplished.

All arithmetic classes should be given blackboard drills.

19. In a country school the children can usually be classified for their arithmetic into four groups, not including the beginners who do their number work in connection with the other school exercises. In each of these groups there may be rapid and slow workers, necessitating a slight differentiation in the work of different individuals. In such cases the slow pupils may be required to do only the minimum amount of work while the rapid ones may be given additional problems. It may even be possible for the latter in some instances to do some advanced work, thus enabling them to catch up to the class above them. This should not be done at the expense of thoroughness but it sometimes happens that some children because of irregular attendance fall behind the others, and it is not right to keep back those who are regular in attendance and able to advance.

20. A common fault in arithmetic is that children are advanced too fast. It is not economical to promote pupils faster than they can do the work well. When they get into work that is beyond their abilities they lose interest and often become discouraged. As long as they are able to do their work well they enjoy it. It is not the number of pages covered in the book that should be the criterion of progress, but rather the increase in power to attack problems whether these are taken from the textbook or from the experiences of life. It is possible for children to be able to work book problems and get book answers and yet not have a mastery of the subject.

21. It is absolutely necessary to do work outside of the textbook if arithmetic is to be mastered as an *applied* subject. A good up-to-date textbook has a number of problems, also discussions, which are helpful in showing how arithmetic can be applied to everyday affairs of life, but these can never take the place of the actual measurements which the pupil must make in order to apply the work to the real conditions in the community. A number of book problems may therefore be omitted even in the up-to-date texts and in their place some actual problems from life substituted.

It is a good plan to have one or two supplementary textbooks in arithmetic for reference, and additional problems.

In institutions training teachers some attention should be given to familiarizing the teachers with the textbooks in use in the schools they are likely to teach.

22. The following topics should be omitted entirely from the arithmetic course and superintendents should ask no examination questions embodying them.

Greatest common divisor and least common multiple; troy weight, apothecaries' weight and fluid measure; surveyor's linear and square measures; paper measure; long ton table; duodecimals; addition, subtraction, multiplication and division of compound numbers; annual interest; true discount; partnership; compound proportion; cube root; equation of payments; series; alligation; longitude and time (taken up briefly in geography).

The following topics should be discussed briefly for the information they contain but it is not necessary to work many of the problems coming under them:

Compound interest (in connection with savings accounts; call attention to tables); partial payments; stocks and bonds; duties; bank discount; exchange (sending money to distant points).

The following topics may be taken up briefly if time permits, and they may also be given as extra work to pupils who are able to do additional work:

Square root; metric system; involved problems in interest.

In commission the first case alone should be required. The other cases may be used as optional work.

In adding, subtracting, multiplying and dividing fractions, denominators should not exceed 16. Problems with larger denominators should not be required and should be assigned only as special work to those who find arithmetic work specially easy or to those who have become skilful in handling fractions having small denominators. The same is true with problems containing decimals having more than four places.

Complex fractions as a subject should be omitted, only bringing it in if it is necessary in order to solve any practical problems, or in the handling of percentage.

23. The following course of study should be followed quite closely in the order that it is given but it must not be understood that each class will necessarily finish the work outlined for a grade at the end of the year. The important thing is to do the work well and let the children make progress as rapidly as they can. At the close of a school year a class may have finished about half of the work of the fifth grade. The teacher should leave a report showing the work done and then the next teacher, after a thorough review at the beginning of the next year, proceeds with the balance of the work outlined for the fifth grade. After the completion of the work outlined for the fifth year the class begins the work of the sixth grade.

24. Another possible flexibility should be noted. In a country school it often happens that a child brings a problem in which he is especially interested to school because of some home work he is doing. It may be that this work is outlined in a part of the course considerably ahead of where he is. If the problem is within his grasp intellectually he should be shown how to work it. For instance, a boy in the fifth grade may bring in a problem in milk testing. It is entirely possible to teach him this lesson if he really is going to use it. The needs of the community should continually be kept in mind in administering the school course.

II. COURSE OF STUDY

First Year

No formal work in numbers should be done with children the first year they are in school, and no regular period for work should be assigned. (An exception might be made in the case of a child who is sufficiently mature—who has perhaps had some start at home before entering school and who is therefore able to make greater progress in all school work). Considerable informal work in numbers can be done incidentally in connection with other school work, especially in conversational exercises and in games. The pupils may begin to use the foot rule and yard stick in measuring. Counting will come in naturally and with this will come the writing of numbers on the blackboard. It may be necessary to use objects to develop the idea of number and some of the seat work should include the grouping of things. The teacher may introduce any material which has number significance if such introduction comes in a natural way and in connection with the other school work. The teaching of the tables should be left for the second year, so that the greatest possible stress may be placed upon reading and language.

Second Year

1. Measurements. The foot rule, yard stick, pint, quart, gallon, peck and bushel. The children themselves should make the measurements. Begin to train them in estimating short distances and then testing by actual measurement.

2. Exercises in buying and selling (playing store), making change, telling time, and any other activities which may be introduced to show the children in a concrete way the uses of arithmetic.

3. The addition and subtraction tables. These tables should be taught together, and should be thoroughly memorized.

4. Subtraction of one number from another in which each order of the subtrahend is less than the corresponding order of the minuend.

5. Counting by 10's, 5's, and 2's to 100.

6. Counting by 3's and 4's to 50 and back.

7. Reading and writing numbers to 1000. Do not allow the formation of incorrect habits in reading numbers. Also be careful to have the children say "naught" when the figure "0" is mentioned.

8. Multiplication tables, with the corresponding division and factoring tables may be begun. Not more than two tables should be attempted.

9. Signs. Names and uses of +, —, ×, ÷, =,

10. Easy oral problems based upon the number facts mastered. These problems should be based upon the children's experiences.

11. Fractional parts of numbers introduced (½ of a number and ⅓ of a number) in connection with the multiplication table.

12. Blackboard drills in writing and adding numbers.

13. Time test on the 45 combinations the latter part of the year. Have pupils note their own improvement and keep record of it.

14. No textbook should be used by the pupils and very little written work should be required at this stage. Care should be taken in making assignment for seat work that children do not acquire bad habits, such as counting on their fingers.

Third Year

1. Review. A careful review of all the work outlined in second year. Special drill and practice given wherever needed.

2. Simple one-step problems relating to the children's experiences. Some of these should be problems based upon measurements and data secured by the pupils themselves. When these measurements are used in computation fractions are dropped. Children should become familiar through use with the following: Inch, foot, yard, pint, quart, gallon, peck, bushel, pound, dozen. Coins, the clock, and the calendar can be used as material for additional exercises in relating number work to life. Exercises in buying and selling, etc., continued. (See No. 2 in Second year).

3. Measurements. Continue to give children practice in estimating measurements and testing for accuracy.

4. Reading and writing numbers to 10,000. Children should be skillful in this work which includes pointing off the periods and naming the orders. Note from textbook exercises where "and" is to be used in reading numbers.

5. U. S. Money. Reading and writing numbers representing dollars and cents.

6. Column addition. All pupils in the class should be able to add a short column independently and quickly before much other work is attempted at this stage. See p. 135.

7. Cross addition. Practice should be given in adding horizontally as well as vertically. Add the following exercises both ways, then add vertical and horizontal sums; final sums should be equal if work is correct.

6	4	3	8
3	7	9	9
9	5	7	1
5	8	5	6
—	—	—	—

8. Subtraction of one number from another.

9. Multiplication tables with the corresponding division and factoring tables continued as far as they can be thoroughly learned and used. Usually these tables can be completed in one year but in case they cannot be learned well it is best to do the work thoroughly as far as it is attempted. When a product is learned teach the two arrangements of factors; thus, $2\times4=8$; $4\times2=8$. Call attention to the old or known combinations in each new table. Also introduce zero as a factor; thus $4\text{X}0=0$; $0\text{X}3=0$.

10. Fractional parts of numbers learned in connection with the multiplication table; as $\frac{1}{6}$ of 54.

11. Multiplication as far as the tables have been mastered; also short divisions with the same restrictions.

12. Original problems by the pupils.

13. Blackboard drills in writing numbers, addition, subtraction, multiplication and short division.

14. Time tests on work in addition and multiplication.

Fourth Year

1. A careful review of all the work outlined in the previous years, Multiplication and division tables completed, including the 11's and 12's. Children trained to use these as unit numbers when multiplying and dividing.

2. Units of length and area. Rod, mile, square inch, square foot, square yard. Give children clear ideas of these units by having them make actual measurements. In case of the mile have them find a specific distance in the neighborhood of the school.

3. Practice in estimating distance, area, and capacity, verified by accurate measurement. Practice in measuring out-door distances by pacing.

See also course of study in geography, third and fourth years, topics 17 and 18.

4. Practice in addition and subtraction continued. Give some work in horizontal addition with larger numbers.

5. Reading and writing numbers to 1,000,000.

6. Long division.

7. Problems involving U. S. Money.

8. Two-step concrete problems introduced.

9. Omit book problems that are too difficult.

10. Concrete oral work in fractions. *No written work.*

11. Original problems. Practice on the part of the children in making original problems and in working problems using data which they themselves have secured. These data may be measurements, current prices or any other facts that may be used as a basis for computation.

12. Mental arithmetic. Give mental arithmetic exercises daily.

13. Short method of multiplying by 10, 100, and 1000.

14. Blackboard drill continued.

15. Time tests to measure progress of pupils continued. Records kept by pupils.

Fifth Year

1. Review. A careful and thorough review of all work that has been done in the preceding years. Special drill and practice given wherever needed. Some of the children will need more of this drill than others, and it may be well to section the class occasionally in order to give additional practice to those who need it while supplementary work is given to others.

2. Factoring. Not only should this subject be taught thoroughly bu it should be used in shortening processes during the remainder of the course.

Omit greatest common divisor and least common multiple as given in the textbook but give much practice to get children skillful in such work as the following:

a. What is the largest number that will divide both 24 and 32?

b. What is the smallest number that will exactly contain 8, 12, and 16?

Note: Since the purpose of this work is to prepare them for work in fractions, and since the work in that subject in this and the next grade should be restricted to work with fractions whose denominators do not exceed 16, this drill must be principally on small numbers. It will be necessary under a, however, to include some larger numbers, as 48, 72 and 96, as it happens in computation that the sum obtained by adding fractions with small denominators is a fraction whose terms are large numbers. This work should be done by inspection.

3. Cancellation. This subject should not be taught merely for its own sake but children should be given much practice in applying it in the solution of problems. They should be given practice in indicating their work in concrete problems involving multiplication and division and thus throw them into form for cancellation. This should not be done, however, until they understand the underlying principles of the work thoroughly and can give the reasons for the different steps taken.

Note: Train children to see that in some cases, as the following, cancellation lengthens the process instead of shortening it:

$$\frac{63 \times 85}{100} \qquad \frac{52 \times 95}{10} \qquad \frac{728 \times 8}{500}$$

4. Use of terms—sum, difference, product, quotient, subtrahend, minuend, multiplicand, multiplier, divisor, dividend, and remainder. The mere definitions are not so important as the proper use of these terms in talking about the different processes.

5. Continued practice in the reading and writing of numbers, including those representing United States money.

6. Continued drill on the four fundamental operations.

7. Practice in multiplying and dividing by 10, 100 and 1000 using the short process; also in multiplying and dividing by 25.

8. Problems brought in by pupils based upon data obtained from measurements, current prices, and other facts that are usable as material for arithmetic work.

9. Measurements continued. Have children measure out a square rod and an acre. Practice in measuring plots of land and determining area. Triangles and rectangles. Wood measure with dimensions of a cord of wood.

10. Mental arithmetic problems daily.

11. The following aliquot parts of a dollar learned:

½, ¼, ¾, ⅓, ⅔, ⅛, ⅕, 1/10

12. Cash accounts. Train children to keep cash accounts showing receipts and disbursements.

13. Concrete oral work in fractions continued. By means of objects show the reduction from lower to higher terms, from higher to lower terms, from improper fractions to whole or mixed numbers and from whole or mixed numbers to improper fractions. Give much drill in this reduction, adapting the devices that were used for practice in the four fundamental operations. Do not be too anxious to get the children into written work in fractions. Their mastery of the subjects depends largely upon the thoroughness of the preliminary oral work.

14. Training in the reading and interpretation of concrete problems in the textbook; also training in the analysis and explanation of concrete problems. Much of this work should be done with problems containing integers before fractions are taken up as a subject. Train the children in the use of language. Do not overdo this work by adhering slavishly to prescribed forms but be sure that the child is thinking clearly and that he expresses his thought well.

Pupils should also be trained to use the blackboard for purposes of illustration such as drawing diagrams representing differently shaped fields, etc.

15. Business papers. Introduction of bills, receipts and checks. Practice in buying and selling different commodities, rendering bills of same, giving receipts, and paying by check. Bank deposits.

16. Fractions. Addition, subtraction, multiplication and division of fractions with denominators not exceeding 16. Much oral work both in the processes and in concrete problems. Work for skill in the handling of easy fractions. Omit book exercises having large denominators and also complex problems, especially those dealing with facts outside of the children's experience.

Sufficient oral drill in adding two fractional units so that the children can give instantly combinations like the following:

$\frac{1}{4}$—$\frac{1}{3}$; $\frac{1}{2}$—$\frac{1}{5}$; $\frac{1}{4}$—$\frac{1}{5}$; $\frac{1}{2}$—$\frac{1}{6}$, etc.

17. Blackboards. Continue use of the blackboard for class drill.

18. Time tests continued and records kept.

19. Short methods introduced whenever advisable and profitable.

Sixth Year

1. Review of all work outlined in previous years. Special drill and practice wherever needed. Especially review fractions thoroughly. Speed test in number work continued.

2. Continued practice in the four fundamental operations, especially addition. Practice in horizontal addition and subtraction. Call attention to the creamery and cheese factory milk sheet where the two additions must tally.

3. Concrete problems similar to those given in previous years, laying special emphasis upon the use of fractional numbers.

4. Actual measurements bringing in fractional numbers. Where in previous grades fractional parts were dropped, now they should be retained and used in computation.

5. Rendering bills in which fractional numbers are used.

6. Mental arithmetic continued.

7. Teaching of decimals, showing the relation to common fractions. United States money used as a foundation for teaching this subject. Limit work in this grade to four decimal places. Practice in reading and writing decimals. Reduction of common fractions to decimals and decimals to common fractions. Decimal equivalents of the most used common fractions thoroughly memorized. (Fractions having denominators 2, 3, 4, 5, 6, 8, 10.)

Addition, subtraction, multiplication and division of decimals.

8. Concrete problems involving the use of decimals.

9. Denominate numbers. As many of the following tables as can be finished with reasonable thoroughness with problems based upon them: Linear, surface, and solid measures; dry and liquid measures; measures of weight (avoirdupois), time, and value.

Problems based upon the following tables should be omitted but it may be well for the teacher to discuss with the pupils what the tables are used for, why they have been put in the textbook and that most of them are of value only to those who are engaged in some specialized work: Troy and apothecaries' weight; surveyor's long and square measures; circular measure; paper measure; long ton table; foreign money.

Problems in carpeting may be omitted.

Important facts bearing upon farm interests should be taught. The most important are the following:

60 pounds in a bushel of wheat, clover seed, potatoes or peas.
56 pounds in a bushel of shelled corn or rye.
48 pounds in a bushel of barley.
45 pounds in a bushel of timothy seed.
32 pounds in a bushel or oats.
196 pounds in a barrel of flour.
1¼ cu. ft. (2150.4 cu. in.) in a bushel.
231 cu. in. in a gallon (about 7½ gallons to the cu. ft.
A cubic foot of water weighs 62½ pounds.

Omit exercises from the book in addition, subtraction, multiplication and division of denominate numbers.

10. Concrete problems made by pupils.

11. Some practice in solving problems without figures.

12. Short methods. Train children to use short methods where it is advantageous to do so.

13. Cash accounts. Train children in keeping cash accounts showing receipts and disbursements.

14. Blackboard exercises continued.

Seventh Year

1. A careful review of work of previous years with special drill and practice wherever needed. Speed tests continued throughout the year.

2. Denominate numbers completed.

3. Percentage. See p. 142.

4. Application of percentage. Problems in milk testing, seed testing, simple interest, commission (first case only), commercial dis-

count, profit and loss, taxes. (Some of these may be left until the next year.)

5. Measurements. Land survey. Terms taught,—base line, fourth principal meridian, range, township, section, correction line. Drawings used. Application of land survey to actual division of land in the community. Considerable practice in land description. This work should be correlated with the work in civics.

Capacity of bins, cisterns, tanks, silos, corn cribs, hay mows, etc. (rectangular solids, cylinders.) Problems related to farm activities and conditions. Actual measurements made at the homes of the children and data brought to school. Textbook problems are not sufficient though they may be used for guidance and to some extent for practice. By making actual measurements and computing from data secured the pupil gets more than arithmetical knowledge and skill; he gets experience in adapting arithmetic to actual conditions. Use cancellation in these problems wherever possible.

6. Problems without figures.

7. Mental arithmetic exercises.

8. Much practice in approximating results both in written problems in the textbook and in actual situations.

9. Practice in reading and interpreting problems, in the orderly arrangement of written work and in the explanation and analysis of problems.

10. Blackboard drill.

Eighth Year

1. Review of work previously outlined with drill and practice given wherever needed to insure

a. Accuracy and reasonable speed in the four fundamentals, especially addition

b. Skill in measurements to secure data

c. Ability to ascertain prices of commodities; also ability to secure other information necessary to the proper solution of problems

d. Skill in the manipulation of easy fractions and decimals when these are needed in the solution of problems

e. Ability to solve orally ordinary problems in which small numbers are used and which do not involve too many steps in their solution

f. Ability to interpret problems and approximate the results

g. Ability to formulate original problems illustrating principles and processes

h. Ability to write and use intelligently the business forms thus far studied and

i. Ability to use the knowledge of percentage in the various applications studied.

Pupils should be encouraged to test themselves in the mastery of preceding work.

2. Practical short methods continued

a. Addition by grouping
b. Use of alliquot parts wherever advantageous
c. Use of cancellation wherever advantageous
d. Multiplying and dividing by 25, 125, 33⅓, 12½
e. Problems in hay, lumber, interest, land, bins, silos

3. Applications of percentage completed (See 4 Seventh year). Customs and duties should be taken up in connection with the study of U. S. Civil Government.

The following subjets should be taken up in a limited way only, following the suggestions given on the teaching of special topics: partial payments, bank discount, exchange, stocks and bonds, insurance, compound interest (with savings banks accounts). Omit entirely true discount, annual interest.

4. Farm (or industrial) problems of any nature which may profitably be worked in the class. These will vary in different localities.

5. Measurements, etc. Building problems. In studying this topic have the children learn from observation and inquiry different kinds of lumber as to use, quality, dimensions and current prices. See special discussion of this subject given on p. 153.

Any of the practical measurements which may be used introduced as material for calculation.

6. Meaning of ratio and proportion with special reference to their application in feeding rations, spray mixtures, dimensions of rectangular fields, etc.

7. Personal accounts and farm accounts. See special suggestions on p. 125.

8. Additional topics. If the pupils have mastered thoroughly the work outlined thus far and there is time for additional work the following may be taken up:

(a) Square root. Teach only the process. Give problmes to show the application: Measure the length and the width of the schoolroom. Calculate the distance from one corner to the corner diagonally opposite. Then measure the diagonal to see how the result agrees with the measurement.

How many square rods in an acre? How many spuare feet? If you wish to lay out an acre in the form of a square, what will be the length of the sides of the square?

(b) Metric systems. See page 154.

(c) Business practice. See pages 155–158.

III. SUGGESTIONS WITH REFERENCE TO TEACHING SPECIAL TOPICS

1. Addition

a. Step 1. The addition table.

1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3
1	2	3	4	5	6	7	8	9	2	3	4	5	6	7	8	9	3	4	5	6	7	8	9
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

4	4	4	4	4	4	5	5	5	5	5	6	6	6	6	7	7	7	8	8	9
4	5	6	7	8	9	5	6	7	8	9	6	7	8	9	7	8	9	8	9	9
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

In teaching the table give short advance lessons,—two or three combinations a week—and drill so thoroughly on all previously learned combinations that it is impossible to forget them. At the rate of two new addition facts a week, the table can be mastered in less than six months.

Since the subtraction table is based upon the addition table the proper time to learn an element in the subtraction table is at the time the addition combination, from which it is derived, is learned. When 5 is learned,

$$\begin{array}{r} +3 \\ \hline 8 \end{array} \qquad \begin{array}{r} 8 \\ -3 \\ \hline 5 \end{array}$$

and

$$\begin{array}{r} 8 \\ -5 \\ \hline \end{array}$$

should be learned.

Note: There are two methods used in subtraction: the "taking away" method, and the "Austrian" or "making change" method. Skill is what the teacher should work for whichever method is selected.

A combination as $\begin{array}{r} 6 \\ + \\ \hline 5 \\ \hline 11 \end{array}$ is known only when the pupil upon seeing it thinks "eleven" just as, if properly taught in reading he thinks of an apple when he sees the word. The symbols 6 and 5 should not enter into consciousness any more than the letters of the word *apple*. The idea *eleven* in the one instance is wanted and the idea *apple* in the other.

To prevent the children from acquiring the habit of counting when they are learning the combinations it may be helpful to use perception cards on which the combinations are given with the answers on one side and without the answers on the other.

b. Step 2. The addition at sight of a number of two digits to a number of one digit; as,

$$\begin{array}{r} 23 \\ 4 \\ \hline \end{array} \qquad \begin{array}{r} 87 \\ 5 \\ \hline \end{array} \qquad \begin{array}{r} 49 \\ 6 \\ \hline \end{array} \quad \text{etc.}$$

Teach first the unit figure. Pupils must be drilled until the unit figure is the first thing that comes to mind when two digits are presented for addition. For instance when the child sees $\begin{array}{r} 7 \\ +8 \\ \hline \end{array}$, he thinks 5 as the unit figure in the sum. If it be $\begin{array}{r} 57 \\ 8, \\ \hline \end{array}$ $\begin{array}{r} 77 \\ 8, \\ \hline \end{array}$ or $\begin{array}{r} 97 \\ 8, \\ \hline \end{array}$ he thinks 5 just the same, always remembering that the result ends in 5.

In teaching the unit figure two distinct steps should be followed:

(1) Combinations of single digits; as,

$$\begin{array}{rrrrrrr} 7 & 9 & 8 & 8 & 9 & 4 & 9 \\ 8 & 5 & 3 & 5 & 6 & 7 & 8 \\ \hline \end{array} \text{ etc.}$$

Long lists of combinations like these should be placed upon the blackboard and the pupil should be drilled in naming the **unit** figure instead of the whole result. Direct the child to take the pointer and proceed from left to right saying: 5, 4, 1, 3, 5, 1, 7. This exercise should be continued until the child can call the unit figures of single combinations rapidly.

(2) Combinations of a number containing two digits with a number containing one digit; as

$$\begin{array}{rrrrrrr} 76 & 88 & 49 & 63 & 75 & 45 \\ 9 & 5 & 8 & 9 & 6 & 7 \\ \hline \end{array} \text{ etc.}$$

The child should first be led to see that the unit figure is not affected because of the fact that one of the numbers contains two digits. Direct the child to take the pointer and proceed from left to right saying: 5, 3, 7, 2, 1, 2, etc. Long lists of numbers should be given and the children drilled until they can name the unit figures rapidly. Then with the same figures the child should name the unit figures and the result: 5—85, 3—93, 7—57, 2—72, 1—81, 2—52. After they have become skillful in this they should with the same numbers name the results only: 85, 93, 57, 72, 81, 52.

c. Step 3. The addition of a column of digits:

$$\begin{array}{r} 7 \\ 8 \\ 9 \\ 6 \\ 5 \\ 8 \\ \hline \end{array}$$

This is really a series of applications of steps 1 and 2.

First have the children name the unit figures from the bottom up: 3, 9, 8, 6, 3. Then have them name the unit figures with results: 3–13, 9–19, 8–28, 6–36, 3–43. Finally have them give the results only: 13, 19, 28, 36, 43.

Continue this drill until the children can add columns correctly and rapidly.

d. Step 4. The addition of two or more columns.

e. Step 5. Rapid addition by the grouping of digits. Some of this work may be profitaby taken up with pupils in the advanced classes.

The work can be accelerated by acquiring skill in recognition at sight of the sum of any number of two digits and any number from 10 to 18; as

47	36	93	82
+15,	12,	18,	17, etc.

This is a double application of the addition table. If step 2 of addition and this step have been mastered, any column of figures can be added at nearly a double rate of speed by adding two figures at a time. If the addition table is known, the sum of any two adjacent figures will be recognized at sight, then one has but to combine these sums by Steps 2 and 5; as in the column at the right; adding down, 15, 30, 37, 47, 61, 70; or adding up, 15, 26, 37, 49, 62, 70.

8
7
6
9
3
4
7
3
8
6
9

Drill for quick recognition of Step 5 and apply the skill acquired in the addition of columns. Accept no imperfect answer. Time the pupils in adding several columns of figures. Record results of a test; one week later give a similar test to see what progress has been made. Frequent drills in addition throughout the upper grades will tend to confirm the habit of good addition.

The children's attention may also be called to other possibilities in grouping. The work that can be done, however, depends upon the training the children have had from the beginning and also upon the ability of the teacher. An undue amount of attention and time should not be given so that other work is slighted.

Much practice in addition should be given to enable children to add at a glance, numbers like the following:

32	56	47	27	25	27
44	29	35	29	35	95

2. Division

a. Step 1. The division table.

The combinations of the division table can be taught from the corresponding combinations of the multiplication table. These two tables are complements of each other and should be taught together, as were the addition and subtraction tables. These tables should be thoroughly memorized.

When the pupil has learned a given combination of the multiplication table, he should be trained to recognize the two factors from the product; as, 32 has for its factors 4 and 8; 36 equals 4×9, 6×6, or 3×12; 42 equals 6×7, etc. These are elements of a factoring table.

The three tables, multiplication, division and factoring, may each be used as a drill upon the others.

b. Step 2. The division of any number by a digit, viz.: "Short Division."

(1) When the application of the division table is exact; as, 842 divided by 2; 993 divided by 3; 1284 divided by 4.

The pupils simply need to see the successive applications of the division table. Show them what to do and drill for skill.

(2) When some of the applications of the division table are not exact; as,

8)378; 6)4237; 4)5368.

(a) Before taking this step, drill upon such modifications of the division table as $42 \div 8$, $17 \div 5$, $23 \div 4$, $48 \div 7$, etc., until the pupils are reasonably expert.

(b) The pupils simply need to be shown that they must apply the division table, mentally prefix the remainder to the next figure, and again apply the division table, repeating the process to the end of the division; as, 8 is contained in 37, 4 times with 5 remainder; 8 is contained in 58, 7 times with 2 remainder. Therefore 8 is contained in 378, 47 times with 2 remainder; or one-eighth of 37 is 4, with 5 remainder, etc.

(3) In step 2, the pupil should be taught to prove his work.

c. Step 3. The division of any number by any number; viz., "Long Division."

(1) In this work two things must be taught: (a) A form for long division (b) The use of the trial divisor and trial dividend.

(2) To teach the form, *use at first examples in short division;* later examples with larger divisors within the range of the pupils' extended multiplication table; as 12, 15, 25, 20, 30, etc. The aim here is to show the pupils where to express the different elements in the example. No other difficulty should be introduced until they are reasonably expert in applying their knowledge of the form of the work. More rapid progress will be made by thoroughly mastering one difficulty before another is introduced.

(3) To teach the use of the trial divisor and trial dividend, use for divisors 21, 31, 41, etc., and *be sure that the number of times the first figure of the divisor is contained in the first one or two figures of the dividend is the true quotient figure;* as,

```
  164
 ----
41)6742
   41
  ---
  264
  246
 ----
   182
   164
  ---
    18
```

In this example 4 is contained in 6, once; in 26, 6 times; in 18, 4 times: The only way safe examples can be obtained is to prepare carefully a list, testing them in each use of the trial divisor to see that it gives the true quotient figure. Even the divisors 21, 31, etc., will not ensure this, though the smaller the unit figure the more likely it is to do so.

(4) Many such carefully prepared examples should be given. When the pupil becomes reasonably expert in this simple use of the trial divisor give many graded examples in which corrections must be made; as

```
      185
    -----
45)8363
    45
    ---
     386
     360
    ---
      263
      225
     ---
       38
```

Presenting the difficulties too rapidly results in confusion and discouragement.

Examine the textbook in your school with reference to the gradation of the problems.

3. Factoring

a. Step 1. The prime factors of all numbers from 1 to 12 inclusive.

These must be memorized; probably all that is necessary at this stage is to drill for rapidity.

b. Step 2. The factoring table

(1) The factoring table is a table of the two factors of all the numbers desirable to factor by inspection as $32=8\times4$; $46=2\times23$; $72=8\times9$; $125=5\times25$; etc.

(2) The two factors should be recognized by memory at sight. If one has to divide to get one of the two factors, the step is not ready for use as a tool.

(3) The memorizing of the table can be more quickly done if presented in an orderly manner. The following is suggested:

(a) The products of the multiplication table. This part of the Factoring Table should be learned in the third year with the multiplication table.

(b) All multiples of 4 to 100 not included in step 1, and above; as 52, 68, 76 and 92.

(c) All multiples of 5, 1 to 100, not above included; as 65, 75, 85 and 95.

(d) All multiples of 7, 1 to 100, not above included; as 91 and 98.

(e) All multiples of 3, as above; viz., 39, 51, 57, 69, 78, 87, and 93. 6×13 is a better combination for 78 than 3×26.

(f) All multiples of 2, as above; viz., 26, 34, 38, 46, 58, 62, 74, 86, and 94. These 26 products as elements of the factoring table should be known as a step in the mastery of numbers.

(g) Any other numbers whose importance demands placing in the table.

In factoring numbers not found in the multiplication table, the two largest factors should be memorized. The child must learn that 57 equals 3×19; 91 equals 7×13, etc. It will be noticed that most of this class of composite numbers have but two factors. Where more than two factors are found, as in 68, the child has learned that 68 equals 4×17 and can then easily factor the 4.

Children should be made skillful in all of this work. They should be able to write the prime factors of all composite numbers below 100 as rapidly as they can write.

c. Step 3. Prime numbers from 1 to 100. Pupils should be drilled on these until they can write them in 25 seconds or less.

4. Cancellation. The process of cancellation is easy and is readily learned, but like all other processes it has little value unless children apply it in the solution of problems.

Give many two or three-step problems in applied arithmetic in which the solutions call only for multiplication and division. Solve by "straight line analysis;" i. e., indicate the work and shorten the computation when possible by cancellation; as, If 24 sheep cost $92, find the value of 36 sheep.

$$\frac{23 \quad 6}{\cancel{92}\times\cancel{36}}{\cancel{24}} = \$138.$$

By use of factoring in cancellation, much computation usually requiring written work can be done mentally.

The work suggested in the above, will serve as an excellent drill upon the multiplication, division and factoring tables.

Children should be taught to use cancellation in multiplication and division of fractions as soon as they learn these processes.

The application of cancellation should be made in problems involving areas of circles, cubical contents, etc.

5. Fractions

a. Grade in which to begin. Children are frequently given the *subject* of fractions too early. Some writers place it as early as the fourth grade. This is entirely unnecessary, as there is sufficient material to keep a class profitably employed at least a year longer. *The subject should not be taken up (except in an oral concrete way) until*

the last half of the fifth year. Nothing is gained by introducing it too early. Not only does it take a longer time to teach the subject but the children are more likely to acquire a dislike for it. When they have a reasonable mastery of the preceding subject matter and their powers of thought have been sufficiently developed, the subject may be taken up with the result that they master it in less time. They also like it better because they are able to understand it.

b. Oral work with fractions should be commenced early,—as soon as such terms as half, third, fourth, etc., can be introduced in a natural way. The work should be concrete and related to the child's experience and observation. Fractional parts should become as real to him as whole numbers, and he should be given opportunity to handle such parts and to talk about them. He thus learns inductively that two fourths and four eighths equal one half; that two whole things and a half equal five halves; that twelve fourths equal three whole things, etc.

Here, as in all other number work with objects, do not continue their use after the pupil has the ideas clearly in mind.

c. Large denominators to be avoided. Some textbooks in use contain problems having fractions with large denominators. If these books must be retained, omit such problems and supplement with exercises in which small denominators are used. It is much better for a child to gain facility in working many problems with easy fractions than working a few problems with difficult fractions. If it is thought desirable to give the children some practice in handling difficult fractions, such work should be left until the last year after the most essential work has been mastered.

d. Textbook. In general the teacher should follow the work as outlined in the textbook used. In multiplication and division, however, only one rule should be given for each process rather than to break the work up into different "cases" with a special rule for each. The following rules are suggested:

(1) For multiplication: To multiply a fraction by a whole number, a whole number by a fraction or a fraction by a fraction, think *one* as the denominator of intergers, reduce mixed numbers to improper fractions, multiply the numerators together for a new numerator and the denominators for a new denominator, using cancellation where possible and reduce the result to its simplest form.

(2) For division: To divide a fraction by a whole number, a whole number by a fraction, or a fraction by a fraction, think *one* as the denominator of all integers, reduce mixed numbers to improper fractions, invert the divisor and proceed as in multiplication of fractions.

e. Compound and complex fractions should be omitted. They may be taken up later in case some of the work should make it necessary. Some knowledge of complex fractions may be of value in percentage.

6. Decimals. Much practice should be given in reading and writing decimals and in the reduction of decimals to common fractions and common fractions to decimals. The work should be limited to numbers involving four decimal places.

Practice should be given in multiplication of decimals until the children form the habit of placing the decimal point correctly in the product. When this process has been thoroughly mastered, take up division of decimals and use the knowledge gained in multiplication to work out the rule for pointing off in the quotient. Some prefer to teach the Austrian method of division of decimals. Authorities differ regarding the real merit of the device.

Give many simple practical problems based upon simple decimal numbers. Much of the work should be oral.

7. Denominate numbers. This phase of arithmetic work should be introduced in connection with the practical problems throughout the early grades. The time at which the various denominational units should be introduced will vary in different localities and in different schools. The children should be given clear ideas of the different units and for that reason every school should be supplied with the measures.

In the sixth grade the work in denominate numbers should be completed.

Much work should be given in estimating distances, areas, and volumes; also the weight of different objects. These estimates should be verified by actual measurements. This is a training that is of great value in getting young people to see the applications of arithmetic to actual conditions.

In teaching square measure pupils should cut from paper the square inch, the square foot, and the square yard. (To get the square yard paste two large sheets of paper together.) Give some practice in measureing with these units so that the pupils get a clear conception of what area means.

Have at hand paper rectangles of various sizes and have the children ascertain their area, using the square inch as the measuring unit. Develop this rule gradually, being sure that the children actually see that length by width means the number of units in a row multiplied by the number of rows.

Use the same plan in developing the rule for volume. Time spent in giving pupils clear ideas regarding units and measurements will be more than made up by the correct habits formed. Simply memorizing tables and working by rule will not give them the power that they acquire by actually thinking things and doing them.

8. Percentage. Many teachers find percentage one of the most difficult subjects to teach. The probable reason is that they find it difficult to illustrate the subject in a concrete way.

a. Meaning of "per cent". Teach that per cent means *hundredths,* not *by the hundred.*

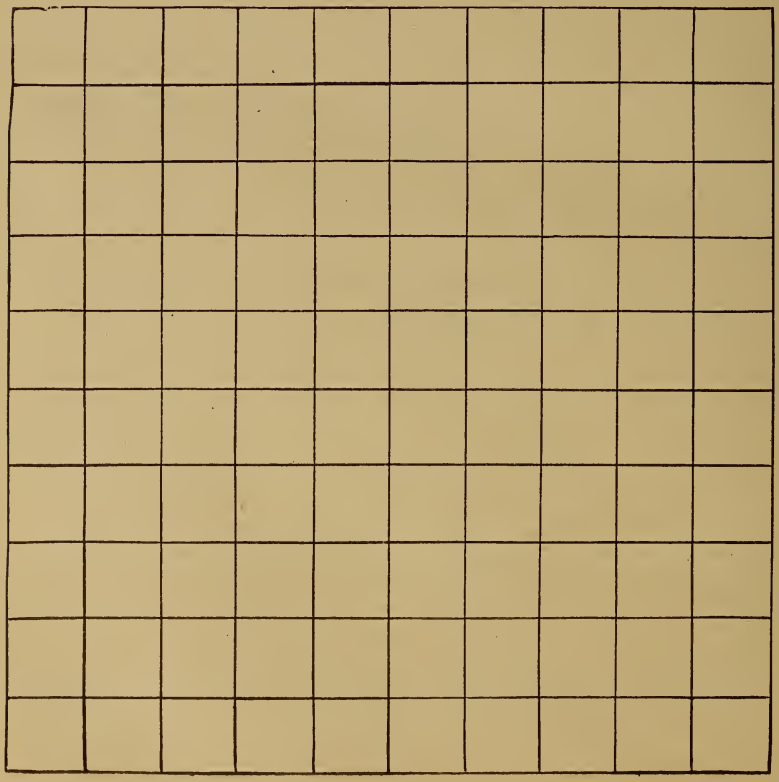
Thus 45 per cent means 45 hundredths or $\frac{45}{100}$; 10% means $\frac{10}{100}$

b. Illustrative square. Draw a 20-inch square on the blackboard or on a large sheet of paper. Divide this square into 100 small squares.

Each little square is $\frac{1}{100}$ of the large square or 1 per cent of it.

Give the children exercises in pointing out or in covering up different per cents (and also fractional parts) of the large square: 29 per cent, 30 per cent, 35 per cent, 75 per cent, 4 per cent, 5 per cent, ½ per cent, 98 per cent, ¼ per cent, 1/10 per cent, etc. Point out parts of the diagram and have the children tell the fractional parts and the per cent the parts are of the whole square.

Other devices may be introduced to illustrate percentage in a concrete way.



c. Equivalents. Work out with the children the following list of equivalents, making use of the diagram whenever necessary. Lead the pupils to see that changing a common fraction to per cent is changing the fraction to an equivalent fraction whose denominator is 100. This is simply a special case of reducing a common fraction to higher terms.

Multiply each fraction by $\frac{100}{100}$, leaving 100 for the denominator:

$$\frac{4}{\cancel{5}} \times \frac{\cancel{20}}{\cancel{100}} = \frac{80}{100}; \quad \frac{3}{\cancel{8}} \times \frac{\cancel{12\frac{1}{2}}}{\cancel{100}} = \frac{37\frac{1}{2}}{100}$$

When the children see the relation this work bears to what they had in fractions, teach them the short method of reducing from a common fraction to per cent: Add two ciphers to the numerator and divide by the denominator. Give practice to secure skill.

One-half	50 hundredths	50 per ct.
One-fourth	25 "	25 "
Three-fourths	75 "	75 "
One-fifth	20 "	20 "
Two-fifths	40 "	40 "
Three-fifths	60 "	60 "
Four-fifths	80 "	80 "
One-tenth	10 "	10 "
Three-tenths	30 "	30 "
Seven-tenths	70 "	70 "
Nine-tenths	90 "	90 "
One-eighth	$12\frac{1}{2}$ "	$12\frac{1}{2}$ "
Three-eighths	$37\frac{1}{2}$ "	$37\frac{1}{2}$ "
Five-eighths	$62\frac{1}{2}$ "	$62\frac{1}{2}$ "
Seven-eighths	$87\frac{1}{2}$ "	$87\frac{1}{2}$ "
One-third	$33\frac{1}{3}$ "	$33\frac{1}{3}$ "
Two-thirds	$66\frac{2}{3}$ "	$66\frac{2}{3}$ "
One-sixth	$16\frac{2}{3}$ "	$16\frac{2}{3}$ "
Five-sixths	$83\frac{1}{3}$ "	$83\frac{1}{3}$ "
One-ninth	$11\frac{1}{9}$ "	$11\frac{1}{9}$ "
Two-ninths	$22\frac{2}{9}$ "	$22\frac{2}{9}$ "
Four-ninths	$44\frac{4}{9}$ "	$44\frac{4}{9}$ "
Five-ninths	$55\frac{5}{9}$ "	$55\frac{5}{9}$ "
Seven-ninths	$77\frac{7}{9}$ "	$77\frac{7}{9}$ "
Eight-ninths	$88\frac{8}{9}$ "	$88\frac{8}{9}$ "
One-seventh	$14\frac{2}{7}$ "	$14\frac{2}{7}$ "
Two-sevenths	$28\frac{4}{7}$ "	$28\frac{4}{7}$ "
Three-sevenths	$42\frac{6}{7}$ "	$42\frac{6}{7}$ "
One-eleventh	$9\frac{1}{11}$ "	$9\frac{1}{11}$ "
One-twelfth	$8\frac{1}{3}$ "	$8\frac{1}{3}$ "
One-sixteenth	$6\frac{1}{4}$ "	$6\frac{1}{4}$ "
One-twentieth	5 "	5 "
One-twenty-fifth	4 "	4 "
One-fiftieth	2 "	2 "
One one-hundredth	1 "	1 "

After making the above list pupils should commit it to memory. The time element should be introduced in the drill.

Teach children how to simplify the complex fractions given in the second column so that they may know how to reduce from per cent to common fractions.

Have the pupils find the decimal forms of the above but do not require them to be memorized.

d. Practical uses. The system of figuring percentage needs to be learned because it is used in so many phases of industrial and business life.

(1) In testing milk we find how many pounds of butter fat there are in a hundred pounds of milk.

(2) In testing seed we find how many kernels in a hundred germinate.

(3) In borrowing money we pay yearly a number of cents for the use of a dollar.

(4) In selling goods some persons charge a given number of cents for every dollar's worth they sell.

(5) In calculating profits or losses business men figure how many cents they have made or lost on every dollar they have invested.

(6) In sales, merchants mark their goods down by throwing off a given number of cents on the dollar.

(7) In marking goods for sale dealers, after calculating the total cost, figure on a certain gain which is often on a percentage basis. The per cent profit varies with different commodities and different kinds of business.

(8) In speaking of foods we often give the percentages of protein, etc. they contain.

(9) Have children mention other uses of percentage which have come to their notice in reading papers, books, bulletins, etc.

9. Farm problems involving percentage

a. Milk problems. By the use of the Babcock test the percentage of butter fat in the milk is determined. Is the milk in your community sold according to the butter fat test or is it sold merely by weight? When milk is sold by test, it is paid for by the amount of butter fat it contains, and rich milk brings larger returns than poor milk.

Many farmers are now using the milk sheet in keeping records of individual cows. In this way they can determine which cows are profitable and which are not. If possible, have the children get some actual experience in keeping a milk sheet and calculating the amount of butter fat from different cows.

b. Seed testing problems. These have been quite generally introduced and need not be explained here. Every school should give some actual practice in this work.

c. Other problems growing out of home activities may be introduced if they are based upon real conditions existing in the community. Unless so-called "practical" or "industrial" problems can be made real they should not be introduced.

10. Interest

a. Much oral work should be done in this subject so that the children may become proficient in computing interest for short periods. Many small loans are made for 30, 60, or 90 days.

b. Methods for written work. The teacher should select for the written work one of the simplest methods in computing interest and give the children sufficient practice to enable them to master the process. As a rule methods involving the manipulation of fractions are cumbersome and productive of errors in calculation. After the subject is thoroughly understood the shortest process should be selected.

Two methods quite universally used are the cancellation and the aliquot part methods. Both of these are really adaptations and abbreviations of the common method.

Problem: What is the interest of $240 at 5% for 3 yrs. 8 mo?

By cancellation: $240 \times .05 \times \frac{11}{3} = \$44.$

By aliquot parts:

Interest for 1 year =	$12
" " 2 years =	24
" " 6 Mos. (½ Yr.) =	6
" " 2 Mos. (⅓ of 6 Mos.) =	2
Total	$44

In computing the interest for short periods as 30, 60, 90, or 120 days the following method is well adapted for oral work:

(1) Get the interest of any sum of money at 6% for 60 days by pointing off two places.

(2) From this number calculate the given number of days or the given per cent.

Examples: What is the interest of $35 @ 6% for 90 days?

Interest at 6% for 60 days =	.35
" " " " 30 " =	.18
" " " " 90 " =	.53

What is the interest at $156 @ 7% for 30 days?

Interest at 6% for 60 days =	$1.56
" " " " 30 " =	.78
" " 7% " 30 "	
(add 1/6 of .78 or .13) =	.91

c. Promissory notes. While pupils are studying interest, they should learn to write the different kinds of promissory notes and to use intelligently the terms that are common to the commercial transactions to which these notes relate. These notes should be written as part of the regular school work and interest on them calculated.

Caution them never to sign a business paper of any kind without reading it carefully and understanding the contents. People are sometimes led to sign papers that afterward prove to be promissory notes.

d. Partial payments may be touched upon when notes are studied. Have pupils write notes with indorsements showing that payments have been made. Have them see that this subject is simply a phase of simple interest. A few such notes may be given them to work out but the computations should be simple. Do not have them work the long, complicated problems sometimes found in the textbooks.

e. Compound interest. Teach the nature of compound interest and give a few simple exercises to show how these problems are worked. Show that instead of being an entirely new subject it is simply a phase of simple interest. Call attention to the use of the table and give a few problems demonstrating its use.

In connection with compound interest the subject of savings banks should be taken up, especially if there is one in the community. Teachers should find out from such institutions how accounts are handled, the rules governing interest, and the kind of deposit books used. Children should be encouraged to open up accounts and thus get into the habit of saving. Such practice teaches both arithmetic and thrift.

f. Bank discount. Speak of bank discount as another phase of simple interest. It is interest charged *in advance* by *banks* when they discount notes.

g. Problems in finding the principal. Some practice should be given the pupils in finding the principal when the other elements are given: What principal is necessary to yield an annual income of $500 at 5%? These problems should be simple and most of them oral. Involved problems in interest should be omitted from the required work but may be given as special exercises to any of the pupils who find the work easy.

11. Commission. In this subject Case I only should be required, (finding the commission when the rate and amount of sales are given) and a few oral problems in finding amount of sales when the rate and commission are given. The other problems are optional.

Discuss the application of this subject to the life of the community. Are there any of the people in the neighborhood shipping hay, grain, eggs, cattle, veal, etc., to commission merchants in the large cities? If so, it might be possible to secure a form of the statement received by the shipper. (Be careful when finding out how transactions are carried on not to bring any person's private business affairs into the class, unless such person himself brings it in as an illustration of the work.) Who pays the freight?

Is there any one in the community selling things on commission? Agents very often sell things on a commission basis, such as books,

pianos, automobiles, fruit trees, etc. What is the difference between selling articles on a commission and selling on a salary basis? If you were to accept a position which would you prefer? Why?

A few problems like the following may be given as oral work:

An agent receives a commission of 5%. What must be the amount of his sales in order that he may make $75?

12. Commercial discount. Discuss with children sales that have been held in nearby cities and villages. What is a sale? Why is it held? Have you noticed articles in the windows marked down from $3.50 to $2.50? Sometimes we read on a sign 25% off. What does it mean?

What are discounts and what are some of the reasons for giving them?

Review sale bills and add to them the discount feature.

13. Profit and loss. The work in this topic should not be restricted to working the problems found in the textbook, but should be applied as far as possible to farm interests. After the general principle has been developed and some general problems worked, bring up a discussion of profit and loss with reference to farm projects.

a. Is a certain field yielding profit? What factors must be considered? Labor, seed, losses, etc? What is the gross income? The total cost? Gain or loss? Does it pay? What must be known to determine if a cow is profitable or not? Can this be figured out? What facts must be secured?

b. Is it profitable to buy up young stock in spring, fatten it, and sell it in fall? What factors must be considered? What items will have to be considered in determining *cost*? Does the interest on the money expended have to be considered in the example?

c. Can it be figured up just what it costs to produce a bushel of corn, peas, or barley? What facts must be known? What are the different items which you would include in computing the cost?

d. Give much oral work in this topic, using small numbers. A newsboy pays one cent a piece for his papers and sells them for 3 cents. What per cent profit does he make? What per cent does he make if he buys them for 2 cents and sells them for five?

A boy gets an article for nothing and sells it for ten cents. What is the gain per cent? Lead the children to see that the cost is always an essential factor in finding gain or loss per cent.

14. Stocks and bonds. No time should be spent in the country school on this subject working the problems usually given in the textbooks. The matter is foreign to the children's experience.

a. If there is a cooperative creamery, cheese factory, insurance company, bank or other institution in the community, find out from the proper authorities how the institution was organized and how it is managed. The plant represents an investment in which the

stock holders have put their money. The business is earning money for them. If it flourishes, profits are paid in the form of dividends. How many shares have been sold? What was the price per share? Have dividends been declared? If so, what rate? If possible secure a sample of a stock certificate and have pupils study it.

b. The teacher should get reliable information from some one who is in a position to give it before presenting this topic to a class. If one cooperative company can be studied at first hand the time will be profitably spent. Attention may then be called to the fact that there are many such companies organized in a similar way for various purposes.

c. The pupils may now read what the textbook gives about the subject, but should not be required to work the textbook problems. Safe and unsafe, profitable and unprofitable investments should be touched upon. Many people have lost money by investing it in mining stock and other risky ventures. Warn against "get-rich-quick" schemes.

d. Call attention to the stock quotations on the financial page of newspapers. A person can ascertain the price of stocks and bonds just as he can the price of grain, hay, or butter. A person who has money to invest can buy city bonds, government bonds, etc., and thus make his money earn an income for him. Bonds are issued by a municipality or a corporation when it borrows money for improvements.

15. Insurance

a. This topic should be taken up for the sake of general information. The best method of approach is to ascertain what companies are doing business in the community, what kind of policies they write, what rates they charge, etc. This information can be obtained from the people themselves and used for discussion in the class. Secure a blank policy if possible. Are there any local insurance agents in the community?

b. After information regarding companies operating in the community has been secured read what the textbook gives on the subject. The textbook problems, however, may be omitted. Instead, if time permits, have pupils make their own problems, using the local companies' rates.

c. Are the companies mentioned above cooperative companies or are they "old line" companies? In case of a fire what proceedings are gone through with before the insurance money is paid?

d. In general what is life insurance? What are the purposes? If the subject can be taken up in a concrete way, it may be discussed briefly for informational purposes, but no time should be spent working the book problems. Whatever is taken up in the way of problems can easily be solved orally.

16. Duties. This is a subject for the civics class and does not properly come under arithmetic. It is not profitable to spend time

working the textbook problems in this subject. See course of study under civics.

17. Taxes

a. Introduce this subject in a concrete way by having the children imagine that they are to undertake some proposition which is to cost a given amount. They will then be the taxpayers. The amount of the tax levy depends upon the cost of the undertaking and the tax rate upon the number of taxpayers. Give an exercise of this kind and have the pupils figure it out.

b. Let them next suppose that the tax will be apportioned according to another standard—assessed valuation. Make a supposed list of the valuation of the members of the class and then apportion the cost among them on that basis. Our taxes are apportioned according to the assessed valuation. How is the valuation determined and by whom? When? What is the assessment roll of the town? What items are or should be on a tax receipt?

c. How much did your town (village, city) raise last year? What was levied by the county on your town? What was the state tax that your town had to pay? What is the assessed valuation of the town? What was the tax rate for the town?

d. Who makes out the tax roll and how does he do it? To whom are the taxes paid? Give name of these persons in your town.

e. Let children get information needed for the subject from the proper officers, if possible, or from their parents. Secure a copy of the proceedings of the county board of supervisors. The training that the teacher can give the children in getting the information regarding the taxes is worth more than the arithmetic work itself.

f. It may be possible to get the town clerk, the assessor, or the town treasurer to come to the school some time during the winter and tell the children about the work they are doing and give them actual figures regarding the valuation, tax rate, etc. After the children understand the subject from the concrete work that has been done, textbook problems may be given for practice. The tax rate is spoken of in terms of mills on the dollar.

18. Exchange. Exchange as a subject should be omitted from the course of study but some time should be spent discussing the different methods of sending money to distant places. This topic is not an application of percentage but it is valuable for the general information it contains.

a. Secure from the post office money order application blanks. The rates are printed on the blank. What must a person do in order to send money in this way? Go through the different steps.

b. Express company money orders can also be purchased. If possible, find out how these differ from the post office orders.

c. If a person has money deposited in a bank he may send his own personal check and the person receiving this may cash it in his

own town. This is a very common way of sending money, especially short distances.

d. If a remittance is to be sent to a distant town a bank draft is often purchased. For this a small fee may be charged. This bank draft is really a check of one bank on another bank with which it has deposited money.

e. Money may be sent by registered mail. Find out from the postmaster in what way registered letters are handled differently from ordinary letters.

f. In case of great urgency, money may be sent by telegraph. Information regarding this method can be obtained at a telegraph office.

19. Banking business

a. With what banks do people in your community do business? What is the capital stock of each? (See reports in newspapers.) What is the value of a bank to a community? How does a bank make money?

b. Check deposits. Get deposit books, deposit slips and check books. Show children how these are used. Every teacher ought to have a bank account with some bank to learn business methods by actual practice. Deposits subject to check do not draw interest.

c. Certificates of deposit. If a person wishes to deposit money in a bank and have it draw interest he usually gets what is called a certificate of deposit. Such deposits are not subject to check. Interest is usually not paid unless the money is left for a given minimum period.

d. Borrowing money at a bank. The bank receives money from those who have it to invest and loans it out to others who can make use of it. Loans are made only to people who are considered safe. For large sums securities must be given. A common form of security is the mortgage. Have a copy of a blank mortgage at school.

When a person gives a mortgage as a security for the payment of his note he guarantees the payment by offering his property or a part of it in case the note is not paid.

20. Accounts

a. **Cash accounts.** As early as the fifth year this work should be commenced. The general form should be taught:

Dr.					Cr.				
Jan.	1	Cash on hand	14	26	Jan.	2	Paid for groceries	1	35
"	3	Rec'd for eggs	3	55	"	3	Paid for feed	5	30
"	4	Rec'd from Mr. Jones	5	00	"	5	Paid Mr. Henry	25	30
"	7	Rec'd from Mr. Brown	20	00	"	10	Balance	10	86
		a					à		
			42	81				42	81
Jan.	10	Bal. forward	10	86					

All cash received is entered on the left, or "Dr." side and all cash paid out on the right, or "Cr." side. The "cash on hand" or the "balance forward" is the first entry.

Teach the pupils to "balance" the cash account. Draw horizontal lines under each column as shown at a and a'. These lines should be on the same level irrespective of the number of items in the columns. Add the debit side and put down the sum (42.81). Be sure it is accurate. It is well to add from top to bottom as well as from bottom to top. Then add the credit column and subtract its total (31.95) from the total on the left side (42.81). The difference (10.86) is the unexpended balance or the amount of cash on hand at the time the account is balanced. Insert the item "Balance" as shown in the account above. When this item is added with the amounts paid out the total will be the same as the total in the debit column. After recording the total as shown above draw double lines which indicates that the account is balanced. Then bring down the balance as indicated. This balance must tally with the amount actually in possession of the individual.

The form of the account may be modified so that both the credit and debit items may be kept on the same page.

Date			Dr.		Cr.	
Jan.	7	Cash on hand	33	64		
"	8	Paid for lumber			12	15
"	9	Rec'd from Mr. T, Ayres	5	25		

The children should be encouraged to keep their own personal accounts of receipts and expenditures. Not only is this a good practice from the arithmetic standpoint, but it has a broader significance as the child is able from time to time to note how much money is spent for different purposes. Many people would be surprised to note how much money they spend for different items that seem insignificant.

For this personal expense account the following form is better than the one given above for the reason that it is simpler, more compact, and enables a person to keep it balanced at all times.

Personal cash account of Harvey Hanson

Date				Cash on hand after each entry	
Mar.	1	Cash on hand		2	45
"	2	Rec'd from father (birthday)	1.00	3	45
"	3	Rec'd for eggs	.50	3	95
"	3	Paid for tablet	.10	3	85
"	3	Paid for candy	.05	3	80
"	3	Deposited in bank	2.00	1	80
"	4	Rec'd for work	.25	2	05
"	7	Rec'd from grandpa (gift)	.10	2	15
"	10	Rec'd for eggs	.48	2	63
"	10	Paid for chicken feed	.25	2	38
"	10	Paid for ball and bat	1.00	1	38

b. Personal accounts. We often have accounts with other persons, such as our neighbors, our hired help, and even people living at a distance. These accounts should be kept in a systematic way. Trusting to memory leads to inaccuracies which may bring embarrassment. If accounts are kept, the date of the transaction is recorded and often aids the memory in recalling the situation. Farming is getting to be a complex business and the children who are now in our schools should be taught the essentials in keeping accounts.

In personal accounts the principle to be kept in mind is that a person should be "debited", that is, the item should be recorded on the *left* side, when we sell him goods on account and when we pay him on the account he has against us. He should be "credited", that is, the item should be entered on the *right* side, when he sells us goods on account and when he pays us on the account we have against him.

The following are illustrative personal accounts:

In account with James Hammond (neighbor)

Mar.	10	Sold seed on %	15	00	Mar.	20	Received on %	50	00
"	15	Sold cow on %	80	00					

In account with Chas. Howard (hired hand)

Mar.	1	Wages due	16	00	Mar.	5	Paid salary	16	00
"	16	Wages due	16	00	Mar.	19	Paid salary	5	00
June	15	Wages due	16	00	June	1	Paid salary	27	00

c. Farm accounts. The principle underlying cash accounts and personal accounts also underlies farm accounts. Whenever a farmer desires to know definitely the profit or loss on any particular phase of his business, he should open an account in which to record the expenditures and receipts pertaining to that phase. Accounts may be opened for the proper entries of items relating to the dairy herd, the corn crop, the alfalfa field, the orchard, the poultry, or any other farm activity.

In any of these farm accounts the same general principle governs the entries: Debit an item whenever it is an expenditure in the business and credit it when it is a receipt. In other words, treat *the poultry business*, etc., as if it were persons with whom you are dealing.

POULTRY

Jan.	1	Inventory (value of fowls, feed on hand, etc.)	26	50	Jan.	9	Rec'd for eggs	2	48
"	2	Paid for feed	1	00	"	14	Rec'd for eggs	1	60
"	20	Paid for feed	2	50	"	20	Rec'd for eggs	1	80
					"	26	Rec'd for eggs	1	92
					"	31	Rec'd for eggs	1	55
		Balance (Profit)	7	35	Feb.	1	Inventory	28	00
			37	35				37	35
Feb.	1	Inventory	28	00					

CORN CROP

		Cost of seed (or market price)				Rec'd for seed corn		
		Preparation of ground				Sale of feed corn		
		1st Cultivation (both ways)				Sale of fodder		
		2nd Cultivation						
		3rd Cultivation						
		Cutting corn						
		Shredding corn						
		Balance (Profit)						

In teaching farm accounts it is well to have pupils construct original problems. Let them find out through inquiry the cost of seed, the cost of cultivation, etc. The accounts should not be made too complicated by the addition of such items as interest on the investment, depreciation of value in machinery, etc. The purpose here is to teach the pupils the *process* of keeping accounts and have them keep in mind the essential factors in doing the work.

Note in the first account given above that the inventory Feb. 1 is not the same as that of Jan. 1. Why the difference? How might the inventory be less? (Death of fowls, sale of fowls, etc.)

If there has been a gain in the business the balance will come on the left side; if a loss, it will come on the right side.

The method of closing the accounts is the same as in the cash accounts and the personal accounts.

There are three different things that need to be taught in this topic: The opening of accounts, the proper method of making entries, and the closing of accounts. Sufficient practice should be given so that children master these three essentials.

21. Building problems. The pupils should understand the terms used in connection with building operations. What dimensions do we find in different pieces of lumber? What is a scantling? A joist? A rafter? A sill? A studding? A two-by-four? etc.

Call attention to different kinds of lumber used in construction of the schoolhouse. What kinds of wood are mostly used for our lumber? What are the characteristics of hemlock, pine, maple, oak. etc.?

Have at hand a board foot. If lumber is less than an inch thick it is still figured as though it were inch lumber.

A good formula for working lumber problems is the following:

$$\frac{\text{No. pieces} \times \text{thickness (inches)} \times \text{width (inches)} \times \text{length (feet)} \times \text{price per M.}}{12 \times 1000}$$

Do not cancel the 1000; point off three places in the quotient.

What different kinds of materials are used for roofs? How is each sold? How many packs of shingles in a M? How many square feet will a M cover?

How is concrete made? What are the ingredients and in what proportion are they? How are cement blocks made? What is stucco?

Of what dimensions are bricks? Of what material are they made? How are they sold? Where is the nearest brick yard? The nearest lumber yard?

22. Metric system. If time is found for this subject take it up in the following way:

a. Have the pupils construct a metric measure (39.37 inches) and divide it into decimeters and centimeters. With this give them practice in measuring the room, the blackboard, the window lights, or any other convenient objects. The purpose is to give them some familiarity with the system by giving them actual practice in its use. With the data secured by the measurements computations may be made. Lead them to discover the simplicity of the system.

b. Have the pupils construct a liter measure out of paper. A liter is a cube whose edge is one decimeter. Note that it is about the same size as a quart. Have them also make out of paper a centiliter. How many centiliters are there in a liter ?

c. The unit of weight in the metric system is the gram, and represents the weight of the water contained in the centiliter. This is a very small unit and cannot be used except in weighing very small things. The ordinary unit of weight is the kilogram which consists of 1000 grams. By questioning lead the pupils to see that the kilogram is the weight of the water contained in a liter. A kilogram is equal to about $2\frac{1}{5}$ pounds in our system. Ask each pupil about how many kilograms he weighs.

Do not spend much time on the metric system, but if possible get the pupils to see the simplicity of it. Our problems would be very much simplified if this system were introduced universally.

After spending as much time as can be reasonably given to the study of the system itself, tell the pupils that most countries have adopted it and are using it in their everyday affairs. England and the United States are the two important nations that have not adopted it.

The metric system is also used extensively in scientific experiments. A person frequently encounters metric terms in reading scientific articles.

If the pupils are having debates in school a good question for discussion would be the following: Resolved, That the metric system should be introduced into the United States.

23. Business practice. Just as dramatization is a valuable feature in language work so practice in "acting out" business transactions may be made a valuable feature in arithmetic. The business terms used are thus made more real to the children.

a. **Buying and selling.** The little children in the lower classes may occasionally be given exercises in buying and selling. Small articles, such as pencils, erasers, etc., can be given prices and some cardboard may be cut up to represent coins. The making of these coins from pasteboard can be assigned to the children as seat work.

One of the class may act as clerk while the others are customers. The exercise must be planned carefully by the teacher and the purpose must always be kept in mind so that the work will not become mere play. The importance of giving the correct change should be emphasized. Facility and accuracy should be commended. A store-keeping outfit for school purposes has been prepared by the Model Store-keeping Department, 31 E. 27th St., New York City. Teachers may receive further particulars and prices by writing to the company.

While a reasonable amount of this work is excellent and helps to give the children a clearer conception of the value of arithmetic, it should not be overdone. The amount that should be given and the complexity of the business transacted must be left to the judgment of the teacher.

b. Making change. Teach the children the business method of making change. If the purchase amounts to 68 cents and the customer hands over a dollar bill, the clerk adds to the 68 cents enough change to make a dollar, counting as he does so: 68, (adding two cents) 70, (adding a nickel) 75, (adding a quarter) one dollar.

c. Caution. The teacher should be careful that the introduction of an exercise of this kind does not upset the discipline of the school. The exercise should not be a long one.

d. Business papers. When the pupils get into the fifth grade and begin to write bills, checks, and receipts, the business practice exercises can be extended to include the writing and handling of these papers. They can make out deposit slips and deposit money in the "school bank." As they sell to one another they may render bills and some of the payments may be made by check. As they buy and sell they may also keep cash accounts, using school change. Cardboard slips on which names (and quantities) of commodities are written may be used to represent these commodities. These transactions may be kept up for some time as part of the arithmetic work while the children are doing other work outlined in the course. Large envelopes may be provided for keeping the business papers and school currency.

e. Suggestive exercises for the advanced class. In the advanced class of the country school (seventh or eighth grades) a more extended practice can be given as the children have then had all the different processes of calculation. The transactions can be carried on while the pupils are given review problems or supplementary exercises. In a country school one transaction a day is usually all that can be given. The following exercise in business practice is given here in order that teachers who wish to give the children some of this work may have something to guide them. The transactions are planned with reference to the feasibility of their execution rather than with reference to imitating the transactions in actual business life.

Before taking up the following series of lessons make bills and coins for class use. Also make cardboard slips representing different quantities of the commodities the children are going to handle in business, such as 50 bu. of oats, 10 tons of hay, etc. Have samples of checks, receipts, bills, deposit slips, bank deposit books and any other papers that will be needed. It will be a good practice to have the children write out these forms when they are needed rather than to use prepared blanks. The practice they get in preparing these business papers will make them familiar with the details. There should also be at hand a small supply of cheap envelopes. (These need not be sealed when sent.) Each pupil should have a simple book for keeping accounts. Get all this equipment ready before assigning work for the business practice.

We will suppose that there are five pupils in the class. Assign numbers: 1, 2, 3, 4, 5. Each pupil is a dealer in hay and grain. Have

them live at different places, thus necessitating correspondence. All, however, do business with The School Bank.

If the class has fewer members than five, or there is a larger number, slight modifications may be needed in these directions.

A teacher who desires to give to the pupils in the upper class the exercises given below, should study carefully the set given for the whole twenty days before beginning any of the work with the class. Necessary help can often be obtained from men in business, such as bankers, merchants, etc.

(1) First day's work: Each pupil makes a loan of $1,000 for 20 days from The School Bank, paying interest at the rate of 6%. Pupils write their notes and come to the bank. Examine the notes to see if they are correct in every way. Sometimes the interest on money borrowed at the bank is paid in advance and taken out of the amount borrowed. When the bank charges interest in advance it is called *Bank Discount.* Frequently, however, the interest is paid when the note is due. They deposit the money borrowed, less the interest, ($1000—$3.33) in the bank. Enter the amounts in their bank books. The teacher files away the notes and the children take the bank books to their desks. They can now pay bills by writing checks on the bank

(2) Second day. Each pupil writes to O. Fulton & Co., Sampleton, Wis., giving an order for wheat, corn, oats, rye and hay. The pupils have supposedly written to different business firms and found this one the best. Let orders range between 450 and 500 dollars. Bushels of grain should be ordered in 50's or multiples of 50 and tons of hay in 10's or multiples of 10. Have pupils put letters in envelopes unsealed and bring them to the class. Examine letters and have them make corrections if necessary. No money is to be sent in the letter as the commodities are to be sold on account. The letters should be neatly written in ink and left at the desk (post office).

Note: All letters, checks, bills, etc., should be neatly written in ink. Do not accept careless or illegible writing.

(3) Third day. Have orders of previous day ready for delivery. Put cardboard slips representing commodities in envelopes. Have bills ready. Give to each pupil the commodities he ordered in one envelope and the bill for same in another. Disregard freight charges. Let them open up an account with the firm by entering the amount on the credit or right side.

Note: Use current prices. See market report in paper. In selling the commodities calculate profits as follows: 3 cents on a bushel of wheat, 2 cents on rye, corn and oats, and $1.00 on a ton of hay.

(4) Fourth day: Have each pupil write a letter to the number above him (No. 2 writes to No. 1; No. 3 to No. 2, etc.,) ordering commodities. Let orders range from 200 to 225 dollars and let them be distributed among the various commodities. Bring letter to class ready to put in post office. Examine letters to see that they are correct. Call attention to errors that may be found. Deliver letters to addressees.

(5) Fifth day: Pupils come to class with orders filled, commodities in envelopes ready to be shipped by freight and bills for same ready for mailing. Examine bills and call attention to errors. Deliver freight and letters, disregarding freight charges. Each pupil needs now to open up personal accounts with two of his classmates, one of which will have a debit and the other a credit item. Each pupil has then three personal accounts.

(6) Sixth day: Have each pupil write and bring to the class a check for $150 to pay O. Fulton & Co., as part payment on account. Also have each one write a check to pay the classmate who has the

next number above for the commodities received in the fifth day's work. A letter should accompany the check to the company and the bill should be enclosed with the check to the classmate. Examine checks to see that they are carefully written and correct in every respect. These payments necessitate making an entry of $150 on the debit or left side of O. Fulton's account, and an entry on the left side of the classmate's account. Ask each pupil how his account stands with O. Fulton & Co. Keep the company's checks and distribute the others to the addressees.

(7) Seventh day: Each pupil receipts the bill that was paid by check and returns the receipted bill by mail. Examine the pupil's account books to see that all entries are properly made. Each pupil brings to the class the check received the previous day. Examine the checks. If they are correct have each pupil endorse his check. Discuss with the pupils the reason for these indorsements. Cash the checks by giving the pupils school currency. Pupils now open up a cash account, entering the amount received on the left side. Each pupil files away the receipted bill which came through the mail.

(8) Eighth day: Pupils bring two orders to class, one for O. Fulton & Co., ordering another supply (amounting to about $400), and the other for about $150 to the classmate having the number below (No. 1 orders from No. 2, etc.). Examine letters. Keep the ones addressed to the company and deliver the others to the addressees. Answer any questions the pupils may have regarding their work.

(9) Ninth day: Have all orders of previous day filled and ready for delivery; also bills for same. Pupils bring their shipments to the freight office and the letters to the post-office. Examine bills. Deliver freight and mail. Each pupil needs to make three entries. One is in O. Fulton & Co.'s. account and the others are in the new accounts which he opens up with two of the members of the class.

(10) Tenth day: Each pupil writes a letter to the classmate whose number is the second above him (No. 3 writes to No. 1; No. 4 to No. 2; No. 5 to No. 3; No. 1 to No. 4; No. 2 to No. 5) and orders commodities to the amount of about $150. Look over letters and distribute them. Pupils fill orders, make out bills and bring materials to the desk. Freight and mail distributed.

(11) Eleventh day: Entires made of preceding day's business—the opening of two new accounts. Each pupil makes out a check to pay in full the shipment received in No. 10. Check and bill sent in letter. Proper entry made in account book. Letters distributed.

(12) Twelfth day: Each pupil receipts bill and sends it back. Proper entry made in account book. Checks brought to bank and deposited. Pupils fill in deposit slips. Be sure they indorse the checks. Have pupils sell to Herman Weston for cash 50 bushels of each kind of grain, sending bill. They bring grain to desk in envelopes and receive payment in school currency. Entry made in cash book.

(13) Thirteenth day: Pupils ship all the commodities they have on hand to E. H. Barton & Co., Grainville, Wis. Bills sent by mail. Account opened with the new company.

(14) Fourteenth day: Pay pupils by check for shipments of day before. Enclose bills with checks. Have pupils receipt the bills and return them. Entry made in account book. Have pupils determine how their personal accounts with their classmates stand.

(15) Fifteenth day: Have pupils send checks to the classmates whom they owe, paying them in full. Enclose statements with checks. Enclose letters telling what the remittance is for. Make entries in account books.

(16) Sixteenth day: Receipts sent for payments made the previous day, showing that the accounts are paid in full. Checks depos-

ited in the bank, using deposit slips. Entries made in bank books. Checks filed in bank.

(17) Seventeenth day: Each pupil makes application to the bank for a draft to pay the balance of O. Fulton & Co.'s account. Let this draft be on a bank in Chicago. Explain to the pupils that The School Bank does business with this Chicago Bank and has money on deposit there: hence it draws upon its deposit just as they are drawing upon The School Bank by check. Since the pupils are regular customers of the bank no exchange is charged for the draft. Discuss with the pupils the form of the draft. In what way is a bank draft superior to a personal check?

(18) Eighteenth day: Have drafts ready for distribution. Pupils mail them to O. Fulton & Co., enclosing letter. Have the pupils leave their books at the desk to be balanced. Ask the pupils to balance the cash account and see if the balance agrees with the amount of money they have actually on hand.

(19) Nineteenth day: Pupils receive receipted statement from O. Fulton & Co., giving itemized account. Two credit items are given, one for $150 and the other for the amount of the draft. Statement filed with other vouchers.

Are all bills paid? Are all accounts settled? Does the cash on hand tally with this balance in the cash account? Discuss any other matter that may need attention.

(20) Twentieth day: Before the class assembles the teacher should balance the bank books and have them ready for distribution. Put in each pupil's book the checks that he has made on his account and note that indorsements are properly made.

Give the pupils their bank books and call attention to the fact that their checks come back to them. These are now receipts or vouchers and should be kept on file.

Pupils come to the bank to pay the note. When is the note due? Since the interest was paid at the time the money was borrowed, the amount to be paid now is the face of the note. A check is necessary to pay the bank just as it is in paying another person.

After the note has been paid let each pupil report the amount of money he has in his possession either in cash or as a bank deposit.

IV. TESTS AND EXAMINATIONS

1. The most important and the most beneficial tests are those given by the teacher in connection with the regular daily work of the class In these tests the weaknesses of the work should be discovered and the causes for them found. Frequently it is necessary to give special instruction to clear up the difficulty as well as to give additional practice and drill.

2. The reviews that are given are also to some extent tests, though they are valuable for other purposes.

3. Exercises should be given in testing children in their ability to read and interpret problems and to apply their knowledge to actual life conditions as well as in testing their ability in pure calculation.

4. In giving tests both accuracy and speed should be given consideration. The standard for accuracy should be high, at least 90%. Pupils should be tested in regard to their ability to make measurements and to secure other data for problems. The following exercise is an ex-

ample: The ratio of the window surface to the floor space in a schoolroom should be at least 1:5. What is the ratio in this room?

5. Pupils should be trained also in securing data from books or other sources in the working of problems, as in the following: (a) What was the per cent increase in the population of Wisconsin during the decade 1900–1910? (b) What will be the cost of the seed needed for sowing 10 acres of oats?

When a teacher gives a test it should be *for the purpose of ascertaining the efficiency of the teaching*, as well as ascertaining the knowledge possessed by the pupils.

6. The tests for graduation from the common school given by the county superintendent should include the following:

a. An exercise in mental arithmetic. In this the pencil should be used only to record results.

b. A reasonably difficult set of varied practical problems to be worked by pupils with pencil in a given time. The appearance and arrangement of work and the use of short methods should be taken into consideration in grading the paper. The problems should not necessitate the use of *uncommonly large numbers*. No problems should be included involving the use of portions of arithmetic excluded from this course. It is also a good plan to give the pupils a choice of 10 out of a set of 12 problems.

c. If possible it would be well to test the pupils' ability in making accurate measurements and working problems based upon such data. Likewise tests that reveal the pupils' power to estimate distances, areas, etc., would be good, as well as questions that show the power the pupil has in finding data from books and other sources. As a rule it is not practical to embody such tests in the regular diploma examination, but it might be feasible in many instances for the county superintendent and the supervising teacher (especially the latter) to give exercises while visiting the schools. It is a good plan to become personally acquainted with the children who are completing the course. Such exercises would also be suggestive to the teacher and to the other pupils.

V. REFERENCES

1. References for teachers and institutions training teachers

Charters. Teaching the common branches, p. 273–99. (T)

Cutler & Stone. The rural school; its methods and management, p. 294–318. Silver

Gilbert. What children study and why, p. 108–45. Silver

Kendall & Mirick. How to teach the fundamental branches, p. 164–224. Houghton.

McMurry. Handbook of practice for teachers, p. 102–13. Macmillan.

2. References for teachers and pupils

Calfee. Rural arithmetic. (T)

Gillan. Problems without figures, S. Y. Gillan, Milwaukee.

Lewis. Farm business arithmetic. (T)
MacGregor. The book of thrift. (T)
Smith & Thomas. Farm accounts. (T)
Teller & Brown. First book in business methods. (T)
Courtis. Tests in arithmetic. Dr. S. A. Courtis, Detroit, Mich.
Thomson. Minimum essentials in arithmetic. Ginn & Co., Chicago.
Studebaker. Practice exercises in arithmetic. Scott, Foresman & Co., Chicago.

A desk copy of a textbook other than the one in regular use. Such a copy is of value in supplying supplementary problems and also because of the additional discussion of the various topics. Some of the textbooks in agriculture contain suggestive farm problems, as does also Field's Corn Lady which is in the Township Library List.

GEOGRAPHY

I. GENERAL SUGGESTIONS

1. Grades. The course of study in geography is outlined to cover a period of four years. It begins with the fourth grade and ends with the seventh. Like many other subjects, more time seems desirable to cover what is commonly considered essential for the country school pupil but it is thought some time usually given to this subject can be used to better advantage in other subjects. If the work is intensive and the eliminations here suggested made, a satisfactory course can be given in this time.

2. Emphasis on leading countries. The best course of study, judged from the standpoint of permanent effectiveness, calls for the study of the more important countries twice. With a crowded course of study, it is not wise to study the countries of lesser importance more than once. An intensive study of the leading countries is preferable if time permits. It is true that all series of texts treat of continents twice but this is done largely to meet the requirements of the different courses of study and not with the thought that the continents and countries of lesser importance are to be studied more than once.

3. Course of study and combination of classes. Home geography for the third and fourth grades precedes that of the more formal work which is usually covered in a two-book series. *The work outlined for these grades is to be taught at the period designated "Language" on the program. The smaller or first book of the series is to be completed in the fifth grade, and the larger or second book in the sixth and seventh grades. These grades recite together studying North America and the island possessions of the United States in the even numbered years (1918–1919 and 1920–1921 are even numbered years). South America and the Eastern Hemisphere should be studied in the odd numbered (1917–1918 and 1919–1920 are the odd numbered years). By this arrangement the teacher has only two classes reciting in the period designated "Geography."*

II. COURSE OF STUDY

Third and Fourth Years

(Home Geography)

The outline in home geography is intended to guide the teacher as to subject matter and furnish material for language work having a geographic background. Each one of the topics can be and should be more fully developed by the teacher. Help in doing this will be found in the reference books at the close of this subject.

The home geography as here outlined is to be based on observation and taught as part of the language work in the third and fourth grades.

1. Water. Water falls upon the ground as rain. Part of the water runs off in streams, part goes into the ground and comes out later on the sides of hills as springs, part goes into the ground and later comes to the surface of the ground and is evaporated by the sun. The part running off the surface helps to form little creeks or streams. These flow into larger streams or rivers and these continue to the ocean.

After many years of rainfall, will the ocean run over? Why?
Water left in a pan will evaporate and pass off into the air.
Does the water of the ocean go into the air like the water from the pan?
Why do ponds "dry up?" Why do teakettles boil dry?
Do clothes dry more quickly in the sunshine or shade? On a cold or warm day? On a windy or a calm day? Why?

2. Fog and Clouds. The earth is cooler at night than in the day time. In the evening when the moisture of the air comes in contact with the cool earth it condenses so much that we can see it. This is fog.

Where and when do you see fogs?
Is it healthful to live where there are frequent fogs?
When can we see our breath? What part do we see?
A cloud is a fog high in the air. Can we see fogs rise?
Have the pupils identify the cumulus, stratus and nimbus clouds.
Why can't we see the sun and moon through some clouds?
How far from the ground are clouds?
Why do clouds move? Where do they go?
Why do some move faster than others?
Which cloud gives us rain?
What is a cloudburst?
On a very hot day when there has been a heavy fog in the morning, it often rains late in the afternoon. Why?

3. Springs. What makes the water come out of the ground in the form of a spring? Why is spring water usually pure? Why do some springs dry up?

The water that goes into the ground dissolves the softer rocks and carries them out in solution at springs. This is how mineral springs are made. Nearly all spring water has in it some mineral, such as lime or sulphur. Have the children bring some of the lime deposit found in the bottom of the teakettle.

Heat is produced by chemical action when water dissolves certain rocks. This water flows to the surface of the ground and we have hot springs. Have pupils slack a little lime to show how this occurs. Again, some water goes into the ground so far that it comes in contact with heated rocks and, after running over them, reaches the surface as hot springs.

How deep into the ground does water go? Why does it stop?
Teach about, and show pictures of, health resorts, also show pictures of formations made by hot springs and geysers. The Yellowstone Park formations are beautiful.
Name several values of springs.
How much more is a farm worth having a spring upon it than it would be without one?
What is a geyser?

4. Dew, frost, snow and hail

a. Dew. Dew is vapor of the air condensed into water while in contact with cold objects.

Why do we usually find it on grass?
What are the uses of dew?
Why does grass wither and the leaves on trees wilt?
What is taking place when the pitcher sweats?
Should you stand your glass of drinking water on the tablecloth? Why?
Some people place the pitcher and glass on doilies and not on the tablecloth.
What makes the pump-spout or the faucet wet in summer?
Do you find them wet in winter? Why?

b. Frost. Frost is vapor of the air condensed into snow while in contact with cold objects.

Where do you see it first in the fall?
What plants freeze easiest?
Name the damages frost may do.
On a cloudy night frost is not so liable to occur because the clouds hold the heat in the air near the earth.
Frost is of much value in breaking up small stones into soil. Plants secure food from soil.
Name other values of frost.
At what temperature does water freeze?
Why will a pitcher or pipe burst if the water freezes in it?
Fill a glass bottle full of water, let the water freeze and note the effect.

c. Snow. Snow is vapor frozen in the air.

Discuss shapes and show pictures of snowflakes.
Discuss the uses of snow to man.
Would you prefer to live where there is no snow, snow part of the year, or where there is snow the year around? Show the advantages and disadvantages of living in each place.

Name and discuss the sports of children, such as sliding down hill, sleigh riding, skating, skiing, curling, ice boating, etc., in cold countries.

Discuss the effect of snow on the food of birds and other animal life.

What do people do to protect animal live in these countries?

Do wild animals need protection in your district?

What is an avalanche?

d. Hail. Hail is frozen raindrops.

Why and when does it hail?

What are the benefits and what the harmful effects of hail?

Which of the farmers' crops does hail often destroy?

5. Ice. A pail full of ice is lighter than a pail full of water.

What would happen to the fish if ice were heavier than water?

What would be the effect on our climate?

Would plants grow?

Could animals or man live?

Give the uses of ice.

Go with the pupils where it is being cut and stored for summer use. Observe carefully how it is done.

The automobile is now used in place of man and the horse in some places to cut ice.

How are icicles formed?

6. Creek or river. Go with a class to a creek and study the current. Teach that at least three things—the slope of the land, the crookedness of the stream, and the composition of the soil—make a current swift or slow. Show how a stream gets more crooked from year to year and that after a while it will straighten itself.

Does any river flow in a straight line?

How and why do people straighten rivers?

Why do large rivers generally flow by large cities?

Which are of more value—swift or slow flowing rivers?

Teach the difference between an estuary and delta mouth.

Why are dams built across rivers?

Notice how the river is digging into the bank at a certain place and that down the stream a short distance it is depositing dirt on the opposite side of the river.

Find small islands, capes, peninsulas, whirlpools, eddies, falls, rapids, etc., in the river.

After a rain the water is muddy and some rivers are muddy all the time. Where does the mud come from?

Notice that every rain causes the soil, grain by grain, to move down the slope to a lower position, hence the hills are being worn down and the soil carried to the river, and eventually to the ocean. Will the rivers finally carry all the land to the ocean and the water of the ocean flow over all the land?

Teach four or five uses of a river.

7. Lakes. Show that lakes are formed by rivers; that some have an outlet and that others have no visible outlet. The sun evaporates water from the latter as fast as it enters them. Lakes cool

the land around them, contain fish for food and make a cheap way of transporting produce. Lakes are also used for industrial and irrigating purposes, to flood land for frost protection and to furnish a water supply for large cities.

Why can produce be carried cheaper on boats than on railroads?

All lakes have salt carried into them by the rivers because there is some salt in all soil. Lakes with outlets allow the salt to be carried through them to the ocean. Those with no outlet hold all the salt coming to them because only pure water is evaporated by the sun. Therefore, lakes with no outlets are salty. Why is the ocean salty?

Men build dams across the outlets of some lakes to secure water power for machinery. What damage might be done if a dam should break? Give instances where dams have broken such as in the case of the Johnstown flood.

8. Uses of water. Water is used for drinking, cleansing, and cooling purposes, and to quench fires. What other uses can the pupils name?

We should drink at least three pints of water per day.

Ice water is not healthful for people or for the lower animals.

How many houses in the district have running water in them?

Some people pipe water into barns and arrange the cups so the cows may drink at any time in the day. This prevents the water becoming too cold and gives the animals a chance to drink whenever they desire.

Are any barns in your district arranged with individual drinking cups for the cattle?

Formulate and have the pupils learn definitions of all forms of water, such as dew, frost, fog, cloud, snow, hail, etc.

Warm water is lighter than cold water. Partly fill two small bottles with water. Color the water in one with a little ink, heat it and pour it carefully and quickly into the other. The colored water will remain on top. Next pour the cold water into the hot and note effect.

9. Work of water in the ground. Often so much material is dissolved and washed out of the earth that large holes or caves are made. sometimes the land over such holes falls into them and we have what are known as sink holes in the land. Go with the children to caves and sink holes if there are any in the district. Encourage the class to find such places. Tell them about Fingal's Cave and the Mammoth Cave. Show pictures of stalactites and stalagmites and explain how they are made in the caves and how beautiful they are.

10. Wells. Teach that wells are holes sunk in the earth to obtain water, oil, gas, etc.

Show what is meant by a surface well. A bored well. An artesian well.

Why is the water in some wells impure?

What is a filter? Have the children make one.

By drawings upon the blackboard and pictures, show the children the conditions necessary to produce an artesian well.

Teach the different devices for getting water from wells, such as pumping by hand, the use of the windlass, windmills and gasoline engines.

11. Air. Man and all animals and all plants breathe air. Without air to breathe, all plant and animal life would die. We cannot see air but we can feel it. Wind is air in motion. Air covers all land and all water and is found in all animals, plants, minerals, and land. Heat does not go through air as easily as it does through dirt.

Why does the ground freeze harder in a beaten path?

Why does a farmer dislike to have a winter road across his wheat field or meadow?

If we should go straight up for a distance of two hundred miles we would find some air. Air is light but the clouds float in it and birds and man fly in it. It contains much watery vapor and the more it contains the lighter it becomes. The sun warms the ground and the ground warms the air next to it. The air on the sunny side of a house is warmer than the air on the other side because the house and ground are warmed by the sun and they warm the air. It is warmed only a very little by the sun's rays passing through it. It is generally warmer when the sun is setting than when it is rising. Why?

Is it colder at midnight or just before sunrise?

March 21st and Sept. 21st are the same length but it is much colder March 21st. Why?

Air holds so much heat that the plants, animals and land are kept much warmer by it. Air in motion drives windmills, sailboats, clouds and many other things useful to man. When air is heated it expands and occupies more space. Take a toy balloon: partly fill it with air and tie up the opening. Heat it over a stove and notice it expand. If well heated it will rise. Why?

12. Rocks and soils. Go with the pupils to the very common rocks of the district. Study especially sandstone, limestone, and granite if found in the district and have pupils make collections of them.

Soil is made largely from rocks. Water dissolves rocks and also goes into the crevices of them, freezes and pries them to pieces. Have the pupils notice where the rocks have scaled off in the spring as the result of frost. Roots penetrate rocks by going into the crevices and, as a result of the growth, the rock is pried apart. Roots also secrete an acid which tends to disintegrate the rock, allowing the growing root to follow.

Earthworms bore holes into the ground by eating dirt and fine gravel. The acid secretions of the worm dissolve the gravel and make soil. We, therefore, have soil made largely from rock by water, frost, plants and worms. Have the pupils make a collection of fossils and discuss with them how the vegetation got into the rock.

Teach how petrified wood is made.

Soil is also made from vegetation as well as from rock. This soil is known as humus.

Have the pupils collect in bottles the three kinds of soil and arrange them in the order given here—clay, sand, humus. Also have the pupils pour water upon three different soils to see which will hold water the best and which will dry out the quickest. It will be well to have the pupils secure partially disintegrated rocks, decayed wood or a piece of rotten stump, and other forms of decayed vegetation. Visit with the pupils a cut in the road which shows humus

on top, followed by well disintegrated rocks, and finally by the solid rock. Expain to them that this is the condition of the ground in nearly all places.

What do we mean by poor soil? Rich soil?
Can soil be to rich?
What is done to enrich the soil by the farmers in your district?
Tell the pupils how careful the people of the older countries of the world are to save all kinds of fertilizer from the farm and put it on the land, and also what a large quantity of artificial fertilizer is bought by them for the soil.
Which is the best kind of soil for the growth of corn, wheat, oats, clover, alfalfa, etc.?
The Wisconsin Experiment Station, Madison, Wis., will give you free information about soils and the different farm crops.

13. Land. The land is the solid part of the earth as distinguished from the water. Any part of it is seldom level but slopes more or less. When the water falls upon the ground it runs down the slopes, usually carrying with it some dirt, and the best dirt. As more rain falls a little groove is cut in the slope, or a small valley is formed. As more rain falls the valley becomes deeper. Show the pupils how a valley is formed by folding paper in the shape of the letter "V." Also show them grooves and ditches, which are only small valleys, cut in the earth by water, and lead them to see how the valleys in their district were formed and are now being formed. A spring rain carries away much good soil.

Is the surface soil of your father's farm being washed away by rains- Where is it going?
Often some farmers seed down the hill slopes or leave them covered with timber to hold the soil. Why is it unwise for a farmer to plow his land on the side of a hill?
The dirt washed from the fields often forms a delta in the mouth of a slow flowing river. Is the delta usually made of rich or poor soil?

Children should be encouraged to look for and bring to school beautiful pictures of hills, mountains, glaciers, rivers, valleys, waterwheels, oceans, steamboats, springs, artesian wells, geysers, volcanoes, etc. These pictures may be gathered from magazines, newspapers, old books, advertising circulars, etc., then classified, arranged and pasted by the teacher upon a piece of large cardboard or the back of an old railroad map. They may also be pasted on large cards of uniform size and filed away for future use. These cards may be used from year to year for drill purposes on land and water forms and on the leading industries.

14. Industries. Preparatory to a study of the different kinds of industries, ask the pupils what the principal business of the people in the district is. What does each pupil's father do? It there anyone in the district who has no regular work? Why should they not be employed? Why do people work? Is a person happier with or without work?

a. General farming. Some of the reasons why more people are engaged in general farming than in specialized farming are as follows:

(1) If one kind of crop is a failure the farmer will have those crops that are not a failure to live upon.

(2) Many people like a variety of occupations.

(3) Some people do not know which occupation they like best and keep on experimenting with different occupations from year to year.

(4) Usually more capital and better scholarship are required in specialized farming.

(5) A few people can do all the work because the crops may be harvested at different times of the year.

(6) People prefer to receive money several times during the year rather than to have it come all at one time, as in most kinds of specialized farming.

(7) There are certain by-products and waste from one line of farming that can be used to advantage as food or fertilizer for other kinds of framing.

(8) What other reasons can the pupils give why so many people are engaged in general farming?

Now have the pupils give as many reasons why specialized farming is preferable to general farming.

b. Specialized or intensive farming. Specialized farming usually consists of dairying, stock raising, poultry, small fruits, or truck gardening.

The industry or industries most common in the district should be carefully studied. Collect pictures of the leading agriculturists and the leading breeds of cattle, horses, hogs, sheep, and poultry. These may be found in agricultural journals, poultry journals, magazines, and newspapers. Have each pupil arrange the pictures in book form. Here should be found pictures of barns, barn equipment, the different type silos, hog pens, chicken houses, incubators and brooders. Place in the same book pictures of small fruit farms and those showing the operations in truck gardening. Hardware and implement dealers will be glad to furnish these pictures.

Collect pictures of the world record cows for milk and fat production. These pictures should show cows with weekly, monthly, and yearly records and may be secured from farm journals found on the library list and from those taken by farmers. The leading dairy breeds are the Holsteins, Guernseys, Jerseys and Ayrshires. A dual purpose animal is one that is profitable to keep both for its dairy and beef qualities. Teach the leading dual purpose breeds. What is meant by a 30 lb. cow? What is meant by boarder cows? How do people know when they have them?

Take the class to the farms specializing in any particular thing and study them at first hand. Have the owners show the stock, barns, silos, poultry house, machinery, etc., and point out methods in planting and harvesting crops. Such questions as the following may be asked while there:

Why does the farmer grow the crops that he does?
When were they sown or planted?

Is he growing crops that add nourishment to the soil, such as beans, peas, clovers and alfalfa?

Is he selling the feed raised on the farm or does he feed it to the cattle and return it to the farm later in the form of manure?

What is the proper time to sow or plant the crops grown?

What is the proper amount of grain to sow or plant and the best way of doing it?

When and how are silos filled; corn shredded; potatoes dug; fertilizer hauled out, etc.?

Does he keep cattle for beef or milk purposes? Why?

What work animals has he?

What other animals are on the farm.

As Wisconsin is the leading state in the Union in the production of cheese, the pupils should visit the cheese factory when possible in company with the teacher. Early in the morning when the milk is delivered is the best time. Also visit the creamery or milk condensery.

What is meant by 4 per cent milk? skimmed milk? whey? condensed milk? certified milk?

What is cheese? What are Daisies? Twins? Young Americas?

Which is more profitable to the farmer—to separate and sell the cream, or to take his milk to a creamery, a cheese factory or a condensery?

c. Other leading industries in Wisconsin are manufacturing, lumbering, mining, transportation, fishing, buying and selling.

Teachers should take advantage of every opportunity to have pupils visit any of these industries that are carried on in the district. Make definite arrangements with those in charge of the enterprise and then inspect saw mill, lumberyard, excelsior mill, feed mill, paper mill, factories of all kinds, stockyards on the day stock is delivered electric light plant, etc. Suggestive questions relating to these industries may be found on page 183.

Easy means of transportation is one of the leading topics of the day. Discuss the different methods of transportation: by ox team; by horses; steam cars; electric cars; automobiles; aeroplanes.

Are methods of travel today more dangerous than formerly?

Are they more pleasant?

Are they easier on the individual?

Many old people enjoy the beauties of nature and visit places impossible under former methods of travel?

Can a person accomplish more in a given number of years by the present methods of travel?

Teach that easy methods of travel shorten distance, are the means of bringing produce and producer nearer market and people nearer together, and serve in a large way as a means of schooling the people of the country.

Is it common for farmers to trade in the same village or city that they did twenty years ago?

Do good roads help or hinder the growth of the small villages?

Have they had any effect on church attendance?

15. Geographical stories. While the pupils are studying about their home industries and modes of living, the teacher should tell and have certain members of the class tell about the children living

under less favorable and those living under more favorable conditions. Pupils are interested in not only children near home but those in far away countries. Many stories, of course, should be read by the teacher and by members of the class. A large number of these stories may be gotten from children's and young folks' magazines. Encourage children to ask their parents for a children's magazine in place of other forms of birthday or Christmas gifts. The magazines will be read and then brought to school for others to read. Teachers, of course, will not fail to consult the district library for books containing geographical and nature study stories. If the library contains few of them, the township library list will suggest desirable ones. Following is a list of good stories:

a. Children of cold countries: The Seven Little Sisters, 36–38; The Children of the Cold, 9–153; The Little People of Asia, 280–295; Snow Baby; Little Folks of Other Lands, 26–32; Land of the Long Night, 75–87; Little Folks of Many Lands, 23–37.

b. Children of hot countries: Seven Little Sisters, 94–107; Seven Little Sisters, 31–34; Little Folks of Other Lands, 66–69.

c. Children of the Desert: Seven Little Sisters, 48–66; Little Folks of Other Lands, 7–16.

d. Chinese and Japanese Children: Seven Little Sisters, 80–93; Carpenter's Asia, 49–58; Wade, Our Little Japanese Cousin.

e. Indian Children: Stories of Indian Children, 7–34; King's Geographical Reader, Book IV, 202–208. Wade, Our Lite Indian Cousin.

f. German Children: Seven Little Sisters, 108–136; Boys of Other Countries; Wade, Our Little German Cousin.

g. Swiss Children: Seven Little Sisters, 67–69; Wade, Our Little Swiss Cousin; Big People and Little People of Other Lands.

h. Dutch Children: Around the World, Bk. 1; Little Folks of Other Lands, 74–81; The Wide World, 57–65.

i. French Children: The Wide World, 65–73.

j. Mexican Boy: The Wide World, 108–114.

16. Directions. Teach the cardinal points by having the pupils stand with their backs to the sun at noon. The shadows will fall north, back of them is south, on their right is east, and on their left west. Have the pupils point to the desk, pictures, teacher, pupils, and name the direction of each. Also have them tell what direction one object is from another.

Teach the semi-cardinal points, and have the pupils locate objects to fix direction. Ask such questions as the following:

Albert, in what direction is your home from the schoolhouse? In what direction is the schoolhouse from your home? What direction is Vernon's home from William's? (Have the pupils walk quickly east, south, northwest, etc.) Which way does Warren's father go to the city? Which way does Cameron's? Allen, name the direction of your home from the homes of the other boys in the class. What direction do the children go to get the cows? What direction is the corncrib from the barn, etc.?

Have the pupils get a cheap compass and a small magnet, if none are in the school, and study them.

17. Distance. Have the pupils secure foot rules. On the blackboard have them draw lines a foot long, six inches, three feet, a yard,

etc. Have them draw lines and guess at the length, then verify with the rule. Now have them measure desks, blackboard, height of pupils, width of windows, length and width of schoolroom, cloakrooms, woodpile, woodshed, width of road, length and width of their bedroom, house, barn, chicken coop, etc.

18. Form. Teach the following definitions:

A point is that which has position only.
A line is that which has length and position only.
A surface is that which has length, breadth and position only.
A solid is that which has length, breadth and thickness. Ask the children if a point, line, or surface can be seen. Show them that only solids can be seen.

Teach straight, curved, vertical, horizontal, parallel, and oblique lines. Have the pupils produce such lines on the blackboard and on paper. Also have them hold rules, books and other articles parallel, oblique, vertical, etc. Teach angle, right angle, acute angle and obtuse angle. Show that an acute angle is sharper than a right angle and an obtuse angle is blunter. In what way is an obtuse person like an obtuse angle? Teach the pupils to draw triangles and have them tell the kind of angles in them. Teach them to draw quadrilaterals, parallelograms, rectangles, squares and circles. The following definitions are good:

A quadrilateral is a plane surface bounded by four straight lines.
A parallelogram is a quadrilateral whose opposite sides are parallel.
A rectangle is a parallelogram having right angles.
A square is a rectangle having equal sides.
A circle is a plane surface bounded by a curved line, all points of which are equally distant from a point within called the center. The difference between the circle and the circumference of it must be made clear.

19. Maps

a. Flat maps. Children have drawn many pictures and maps before this time but they have likely not drawn anything to scale. Teach the idea of scale by asking them to draw the cloakroom of the schoolhouse on the blackboard. The children cannot draw it the actual size because the blackboard is not large enough. Now tell them to let one inch on the rule stand for one foot of the room. This room may be about 10x12. They now draw it and observe that the drawing has the same shape as the room but is much smaller.

Have pupils measure and draw the schoolroom, vestibule, school grounds, father's house, dining room, barn, etc. Draw these on the scale of one inch to the foot, then with the same measurements draw them one-half inch to the foot, then one-fourth inch to the foot, then two inches to the foot, etc. Place in the drawing of the schoolhouse the seats, stove, desk and bookcase. Place on the drawing of the school grounds, the schoolhouse, playground and trees. Tell the pupils that the upper part of the blackboard is north, that the upper part of the map when hung up is north, and that the other directions correspond

with those in the room. Study the outline maps of the school until pupils give directions on them quickly.

Have each pupil draw to scale a map of such parts of the school district as are familiar to him. On this map should be placed the houses, barns, and natural features known.

b. Relief maps. Relief maps show a part of the land level and other parts at different heights so that mountains, valleys and rivers may be clearly located. They should be made by the teacher with the help of the pupils. Children like to make such maps. The topography of the school grounds and that of the district can be approximately shown. The following recipes will be helpful in making the relief map:

(1) Salt and flour. Mix well between thumb and finger two parts of common salt and one of flour. Add water slowly, mixing all the time. Continue this until it is of the proper consistency.

(2) Paper. Tear up into fine pieces a number of old papers and soak them well in water for two or three days. Drain off the excess water and mix well until the mixture becomes a thick, pliable mass. Diluted ink may be used to show bodies of water close to the continents, and to show lakes, rivers, etc.

20. Globe. Simple lessons on the globe need to be taught before a study of the map work of the different continents is taken up. Teach the shape of the earth. Show the great land and water areas and teach the names of them. Tell the pupils that the earth is supposed to have come from the sun in a hot gaseous condition—that it cooled but is yet hot far down in it. Give them reasons for this belief.

Teach diameter, radius, circumference, axis, equator, parallels, zones and poles. Commodore Robert Edwin Peary discovered the north pole and Roald Amundson discovered the south pole. Have any other persons been to either the north or south pole?

The axis of the earth is its shortest diameter because, while the earth was rotating in a liquid condition, it bulged at the equator and flattened at the poles.

The earth has two great motions. It rotates on its axis and revolves around the sun. Rotate the globe. Let a plant, vase or teacher's desk represent the sun, then carry the globe around it. This is a revolution. Rotate and revolve the globe at the same time. The earth goes around the sun in the opposite direction to the movement of the hands of a clock or watch. Teach this definition. Show that it is wrong to say that the earth revolves around the sun from east to west because you can go two ways around the sun and be going from east to west. Have one pupil represent the earth and another the sun. The earth representative should revolve around the sun representative. Now have the earth representative rotate and revolve about him. Remember the axis of the earth always points toward the north star.

Fifth Year

1. Textbook. The fifth grade should begin the study of geography with text in hand. A review of the work given in the Language class the preceding year, together with a review of the generalized home geography usually found in the beginning of the text, may be given first and the text used as a guide throughout the year's work. All books give good physical maps as well as political. The pupils should study them carefully. Let the teacher ask such questions as:

What does the deep blue representing water indicate? The light blue? What the tan of the land, the orange, etc.?

The rivers show which way the land slopes. Test pupils on the slopes of the different continents. Where are the divides? Have pupils trace the Mississippi, St. Lawrence and Colorado basins. They must not cross the rivers in doing so. Where are the peaks and where the lowlands as shown by rivers? Where will we find snow in the United States in summer?

Discuss the general movement of winds. Show on a map of the world, and also on maps of continents, where we have periodic winds, westerly winds and trade winds. Tell the class that the United States is in the westerlies, and that Mexico is in the trade wind belt. Ask why California receives more rain than Wisconsin. Why does the west side of the Rockies receive more moisture than the east side? Ask many other questions of a similar nature so that the pupils may have the general action of winds well fixed.

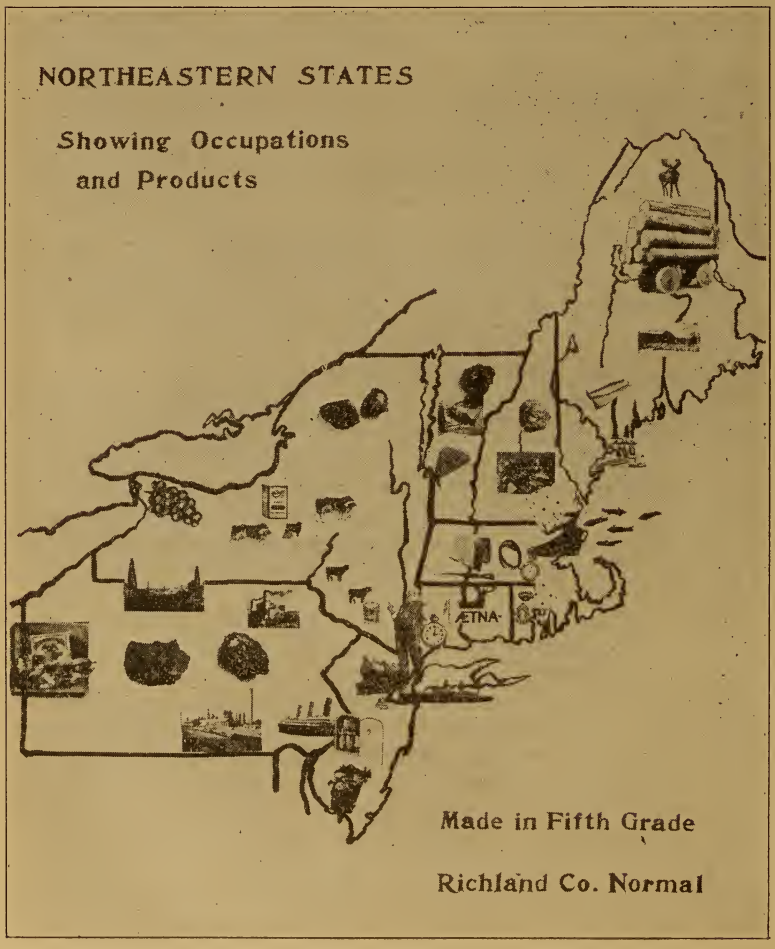
2. North America. In the study of North America as a continent, place much stress upon the map work. Teach its principal divisions and the large reasons for these divisions. From a knowledge of the direction of winds, the latitude and topography of the country, have the pupils infer the sections of heavy rainfall, light rainfall, snow all the year around, a large part of the year, and no snow at all. Where are the hot sections and cold sections? How does the climate affect the character of the people living in the different sections?

3. Resource map of United States. The United States should be studied intensively. It is a good plan to have the teacher sketch on the blackboard or on a large sheet of paper a small part of the United States and then write in the principal products, industries, cities and natural objects. Large areas and important things only should be studied. If possible, have the pupils secure small pictures or samples of the articles representing the things studied and paste on the map. See map on opposite page. Each day the map will grow a little, pictures will be pasted on and students will read in their geographies about them and recite in class on them. Not only are the pupils interested in the growth of the map, little by little, but the best

possible opportunities for daily reviews and weekly drills are afforded. The library books dealing with the section of country under discussion should be read and reported on in class. The textbook will indicate the things worth studying in any particular section of country and this coupling of map work, textbook and library book, together with an easy method for review, secures an intensive and correlated line of work.

4. Permanent blackboard map. These maps may be made reasonably permanent upon the blackboard by simply dipping soft crayon in mucilage and tracing in the different features with it. They may be erased with a cloth and warm water.

After the United States has been studied in this way, which should take about two months' time, study the Northeastern, Southeastern, Central and Western sections of it, following the outline below:



5. Topical plan of study. The following outline should be posted on blackboard or printed in large type on cardboard so that pupils may be able to read it from the recitation seats. A large outline map should be used during the recitation and the pupils required to recite on the topics from the outline. Much of what is comprised in the outline should be learned by the pupils in working with the teacher. Oral map exercises should be conducted by the teacher on the first eight topics at least. With the textbook open, the teacher should teach the pupils how to use the textbook—what things are important and how to organize the material so it may be remembered and recalled in an orderly way at the recitation period.

The study period consists in the pupils finding out and learning what their text says about each one of the topics with reference to the section under discussion. By this method the children are always looking for something definite and not just studying everything that may come in so many pages of the book.

During the recitation it is well to have the children pass to the map, locate and point out the various things under discussion. Every recitation may be made a topical recitation and set forms of language may be required in discussing any topics such as drainage, minerals or exports of any section of country. This will give the pupils a geography vocabulary and a language training equalled in few subjects.

a. Position
b. Size
c. Shape
d. Boundaries—physical
e. Coast
    (1) Regular
    (2) Irregular
f. Surface
    (1) Hills
    (2) Valleys
    (3) Plains
g. Drainage—River systems
h. Soil
i. Climate
    (1) Heat
    (2) Rainfall
j. Products of Water
k. Products of land
l. Minerals
m. Occupations
n. Manufacturing
    (1) Power used
    (2) Raw material
    (3) Finished products
o. Markets for products
    (1) Local
        (a) Country
        (b) City
    (2) Sections of U. S.
    (3) Foreign countries
p. Means of transportation
q. Exports

r. Imports
s. Laborers—what class?
t. People
    (1) Origin, etc.
    (2) Social standards
u. Centers of population
v. Special features
    (1) Scenery
    (2) Buildings, etc.
w. Cities
    (1) Kinds
        (a) Largest
        (b) Capital
    (2) Outline for study
        (a) Location
        (b) Growth
        (c) Occupations
        (d) Exports
        (e) Imports
        (f) Points of interest.

The teacher and pupils, with books open, should work out answers to nearly all these questions from the map. The teacher should continually ask herself and the class why certain products are raised, why a certain climate prevails, why the coast line is irregular, why the social standard of the people is high or low, etc. Have the pupils use the large geography for pictures maps and descriptions.

After completing North America, follow the same plan in the study of South America, Europe and Japan. It is not likely that the whole world can be profitably studied in this way during the year but the part omitted will be covered in the larger text in the sixth and seventh grades. It is better to teach well and to spend all the time possible on the countries named than to give a general course covering all the countries of the world.

6. School library. Teach the lessons indicated for the fifth grade geography class on page 19, Lessons on the Use of the School Library.

7. School survey. A school survey undertaken by the pupils should be made in every school district. It is well to have pupils make maps of the school district and locate on them silos, factories, clubs of various kinds, etc. The work may be done in the fifth year or in the fall term when the sixth and seventh grades are studying North and South America. Under certain conditions it will be best for the whole school to undertake it. Through the survey it is possible for a county superintendent to secure some valuable information for his county. The following list of articles will serve as a guide in determining what may be asked for:

a. General statistics
    (1) Number of farms .....
    (2) Number of people owning their farms.....
    (3) Number of people renting their farms.....

(4) Acres .....
(a) Corn .....
(b) Alfalfa .....
(c) Potatoes .....
(5) Number of silos .....
(6) Number of creameries .....
(7) Number of cheese factories .....
(8) Number of community clubs .....
(9) Number of school clubs .....
(10) Miles of .....
(a) Macadam road .....
(b) Concrete road .....
(11) Number of horses .....
(12) Number of cattle .....
(a) Registered .....
(b) Grades .....
(13) Number of hogs .....
(14) Number of sheep .....
(15) Number of chickens .....
(16) Number of turkeys .....

b. Farm conveniences

(1) Gasoline engine .....
(2) Windmill .....
(3) Manure spreader .....
(4) Manure carrier .....
(5) Litter carrier .....
(6 Sulky corn planter .....
(7) Corn binder .....
(8) Hay loader .....
(9) Milking machine .....
(10) Cream separator .....
(11) Milk house .....
(12) Automobile .....
(13) Silo .....
(14) Road drag .....
(15) Incubator .....
(16) Spraying outfits: potato, fruit .....

c. House conveniences

(1) Running water: hot, cold .....
(2) Bathroom .....
(3) Cesspool .....
(4) Basement laundry .....
(5) Power washer .....
(6) Cistern .....
(7) Ice box .....
(8) Laundry chute .....
(9) Screened porch .....
(10) Sleeping porches .....
(11) Electric lights .....
(12) Telephone .....
(13) Sewing machine .....
(14) Gas or oil stove .....

d. Rest and recreation

(1) Croquet set .....
(2) Swings .....
(3) Hammock .....
(4) Tennis .....

(5) Basket ball .....
(6) Boating .....
(7) Reading material .....
(a) Farm journals .....
(b) Current magazines .....
Adult .....
Children .....

Sixth and Seventh Years.

These two grades should recite together and complete North America with an intensive study of the United States and Wisconsin in the even numbered years. South America and the Eastern Hemisphere should be completed in the odd numbered years. This arrangement as to years is desirable in order that pupils passing from district to district may find geography classes suited to their needs; also in order to facilitate the work of supervision. The large or second book of the ordinary textbook series is to be used for the material and the general order of presentation. If, however, the first part of the book deals with mathematical geography and a condensed form of physical geography, it is wise for the teacher to omit them. The pupils are not prepared for the broad abstractions of mathematical geography, and, while able to understand in a general way the physical features, such as coast lines, river systems, weathering, volcanoes', etc., a much better understanding will be had of them if studied in connection with the section of country where these features exist.

1. North America (even numbered years)

a. General physical features. Following a discussion of the general physical features most texts treat in a large way the physical conditions found in North America. These features should be taught with special reference to the country being studied. The pupils must know the area covered by the westerlies, and the area covered by the trade winds as well as the direction these winds blow. Not much headway will be made unless the pupils know the effects produced by high and low areas, the areas of heavy rainfalls, the heat belts, and the effect of latitude and altitude on climate, vegetation, and population.

b. Weather map. Here is the proper place to introduce the study of the weather map. The pupils should be taught how the weather predictions are made and how the people are notified about the condition of the weather two or three days in advance of any particular kind of weather. The weather map is printed in different cities of the United States and will be sent to any one who will post it in a conspicuous place for the use of the public.

Show how a map forecasting the condition of the weather might be of service to a farmer, a rural mail carrier, the railroads, visiting parties, etc.

Maps will be sent free of charge to teachers by addressing the Weather Bureau at Milwaukee, Madison, or La Crosse; also Duluth or St. Paul, Minn., and Dubuque, Iowa.

c. Waves, currents, and tides. An intelligent study of the coastal states at least cannot be made unless the names of the five great ocean eddies, the gulf stream, their direction and effect upon the climate of the countries are taught. The work of waves, the beneficial and harmful effect of currents and the cause and use of tides should be made clear to all members of the class. Let this work be supplemented by studying drawings and cuts found in physical geographies. A careful study of the pictures and diagrams found in the text and in reference works should be made until the pupils understand all the author tried to show by them. Remember that a picture or cut is not inserted in a book unless it *teaches* more than could be taught by using the same space for printed matter.

d. Blackboard outline map. Every school should have a blackboard outline map of the United States mounted on a common roller. It is particularly useful for the work in geography and history. It can be secured from any school supply company. Price, 72x50 inch, $2.60. Blackboard outline maps of the other countries may be had for the same or for a lower price.

e. Intensive study. After this portion of the book is completed, a detailed study of the United States and Wisconsin should occupy the attention of the class for the remainder of the year. An intensive study of any country demands at least four things:

(1) The physical, political, and commercial features thoroughly fixed by systematic map work.

(2) A neatly kept notebook which contains large and unusual things.

(3) The reciting of the subject matter found in the text and that given by the teacher.

(4) Collateral reading from the library and current periodicals applicable to the country being studied.

f. Map work lays a foundation. Good map work lays a foundation for other work and without this foundation the pupil gets very little permanent worth from the study of geography. Before the map work of a section of country is commenced, however, the attention of the class should be called to relative distances, shapes and proportions, the direction of rivers and the direction of one natural feature from another. The condition of the coast line and the more evident reasons for the location of cities and industries in them should be pointed out. After this analysis, which should properly take place from wall maps and maps in the text, the pupils should be assigned a section of the map for the next day's study. They should practice upon this map until it can be accurately sketched from memory on the blackboard or paper the following day. Besides this work the teacher should assign to the pupils only such

natural features, cities and objects as she expects the pupils to remember and to know something more about than their location. The average geography will direct the teacher as to material but it usually does this without any particular order. It seems best that it should be arranged in the order found in the following the coast line or river systems, and that the pupils should write it in their notebooks. Many places given in texts will need to be eliminated and only those should be given that are to be remembered for life.

g. Library reading. Readings from library books dealing with certain countries or with certain industries, physical features, etc. should be reported upon while the class is studying the particular countries, industries, or special features. The following plan will systematize the library reading and tend to insure a definite amount of this line of work being done:

Name	Sept.	Oct.	Nov.	Dec.
Wm. McCorkle	1	3	8	6
Gretchen Wulfing	3	5	4	7
Beulah James	5	6	7	8

Wm. McCorkle will report Sept. 1st, Oct. 3rd, Nov. 8th, and Dec. 6th. He and all other members of the class and the teacher know when he is to report. There is no misunderstanding about the fact of a report being given, about the time it is to be given, or any one of the many things often occurring to prevent library work. The names of all pupils in the class and the dates on which the book reports are to be given should be posted, if possible, for a period of three or four months in advance of the time the reports are to be given. As soon as a report on one book is given the pupil should select, with the advice of the teacher, another book for the next report. The teacher, of course will know in advance the section of country on which the map and textbook work will be done so that a library book may be selected dealing with some phase of the country to be studied. Not only books but topics, such as icebergs, salt lakes, caves, railroad coaches, wool, etc., may be made the subject of a report. For these reports the card catalog should be used. In this way the student can get all the material in the library on any one of these subjects.

h. Steps in a book report. Book reports should be brief, well arranged and animated. To assist in making these reports valuable the following order of presentation is suggested:

(1) Name of book
(2) Name of author
(3) State in general what the book treats of and name the great divisions of it

(4) Give an intensive report of some certain part most applicable to the country, industries, and objects studied in the regular text.

(5) State why you like or dislike the book

i. Library lessons. Teach the lessons indicated for the sixth and seventh grade geography classes on page 19 of Lessons on the Use of the School Library.

j. Topical Recitations. Many young people are timid about making a topical recitation such as is called for in a book report and, because of this fact, recite in sentences and parts of sentences. To help overcome this timidity and to assist them in connective thinking, the teacher should have the pupils observe such directions as the following:

(1) Stand in front of and face the class

(2) The weight of the body should rest largely upon the strong foot or the foot that is slightly advanced

(3) Give the proper bodily movements and facial expressions to convey the thought of the author

(4) Speak from a very few notes, or, better still, speak without the use of any notes

(5) Look into the eyes of those spoken to and not on the floor or out of the window

(6) Speak as though you were happy in making the report

2. United States.

a. New England States. Textbooks begin an intensive study of the United States with the New England group. The teacher and class, with textbooks open, should study them and observe the slope of the land and the location of large cities as determined by rivers and mountains. The lattitude, direction of winds, rough coast line, good harbors, many lakes, the general slope and size of states should be noted and inferences drawn as to the products, industries and exportations of this section. After this the teacher should assign, usually every day, a definite amount of map work and such natural features, cities, and objects as she expects the pupils to remember. The places in this group of states, their order of presentation, and at least one fact about each place worth remembering is given below. These should be assigned by the teacher and written by the pupils in their notebooks. This, together with the map work, is enough for one week's work.

(1) St. Croix River; boundary between Main and New Brunswick

(2) Penobscot river

(3) Bangor—Head of navigation and the destination of logs that are floated down the Penobscot; also a great lumber market

(4) Bath—Ship building

(5) Kennebec River

(6) Augusta—Capital

(7) Moosehead Lake

(8) Portland—Metropolis of Maine, large trade in lumber and fish

(9) Portsmouth—The only seaport of New Hampshire
(10) Merrimac River—Turns more wheels than any other river in the world
(11) Lowell, Lawrence, and Manchester—Manufacture of cotton and woolen cloth
(12) Concord—capital
(13) White Mountains—Some of its peaks are named after former presidents. Mt. Washington is the highest. From it one can see the ocean
(14) Lynn—Boots, shoes, and leather goods
(15) Boston—Capital, excellent harbor, Faneuil Hall, Art galleries, and Bunker Hill
(16) Cambridge—Harvard University
(17) Plymouth—Landing of the Pilgrims
(18) Cape Cod—Formed of sand and glacial drift
(19) Martha's Vineyard—Noted summer resort
(20) Fall River—Eastern terminus of steamship line from New York to Boston
(21) Narragansett Bay—Note the number of its branches
(22) Providence—Capital, noted for the manufacture of silverware and jewelry
(23) Long Island Sound—Next to Chesapeake Bay the most important oyster grounds in the world
(24) Long Island—A large island belonging to the state of New York
(25) Connecticut River—Flows through a rich valley and has large water power
(26) Hartford—Capital, head of steamboat navigation on the Connecticut river
(27) New Haven—Yale University

The pupils are now prepared to report upon readings from the library, textbooks, papers, etc., relating to the New England states; the map work has been completed. Special study should now be made of at least the following topics:

(28) The great glacier
(29) The sinking coast line
(30) Waterpower
(31) Manufacture of cotton and woolen goods
(32) Manufacture of shoes
(33) Watch factories
(34) Lumbering and forest products
(35) Granite, marble, and slate
(36) Truck gardening
(37) Fish and other ocean food
(38) Imports
(39) Exports
(40) Harvard, Yale, and Clarke Universities
(41) Emerson, Thoreau, Hawthorne, Whittier, Lowell, and Longfellow
(42) Summer resorts

b. Other sections. The Middle, Atlantic, Southern, Central, and Western group of states should be studied in the same manner as the New England.

3. Wisconsin. When Wisconsin is reached in the western group, special emphasis should be placed on its industries. The map work,

showing the coast line, at least the four great rivers, the portion drained by the St. Lawrence system and that drained by the Mississippi system, should be well done before the industrial and commercial features are attempted.

a. Resource and industrial map. Have each student secure a sheet of paper about 22 x 28 inches. Bristol board is preferred and can be gotten from any printing office. On this paper sketch a map as large as possible showing the drainage systems of the state. The different resources and industries should now be shown by pasting miniature pictures on the map covering the area engaged in them. When completed the map should show at least the areas engaged in the following lines of work:

(1) Dairying
(2) Beef cattle
(3) Corn
(4) Alfalfa
(5) Potatoes
(6) Small fruits
(7) Cranberrying
(8) Pea canning
(9) Lumbering
(10) Paper and plup industry
(11) Mining
(12) Quarrying
(13) Parks
(14) The twelve largest cities

As concrete a study as possible should be made of Wisconsin's products. In many of the occupations and industries a collection of samples should be encouraged. In others, advertising material is very helpful and may be had for the asking.

b. Make prominent the features in which Wisconsin excels. Let the map also show the state institutions such as the University, Normal Schools and those institutions that are cared for by the State Board of Control. Make prominent and place special stress upon the things in which Wisconsin excels. Information relative to these things will be furnished, upon application, by the State Board of Immigration, Madison, Wis. Write to this board for pamphlets and circulars. You cannot get the information contained in them from textbooks or from library books. Other helpful information may be secured from the College of Agriculture, Madison, Wis.

c. Wisconsin railroad map. The railroad map of Wisconsin is a source of much information and is too often made little or no use of. From it the United States Land Survey may be effectively taught. Here is shown very nicely the base line, correction lines, and the numbering of townships both north of the base line and east and west of the 4th principal meridian. At least the five great railroads,—the C. M. & St. P., C. and N. W., Soo, Burlington, and Green Bay and Western, —should be taught. These as well as many minor roads that are of importance locally can be better taught from this map than from any other. The map indicates many other things that should be taught from it.

4. South America (odd numbered years)

a. Type lesson. South America is rich in natural resources and offers many opportunities for people in the more densely populated

countries of the old world and North America. Because of its resources and favorable climatic conditions it should not be treated in the meager way often found in texts. The same plan of study should be followed as was used in the treatment of North America. The similarity between the two continents should be observed. Both are triangular in shape and taper towards the south. The principal and secondary highlands are on the same side and both continents lie largely in the temperate zone. These countries have, however, two striking differences—the rivers flow in opposite directions and South America is without many good harbors because of its smooth coast line. A type lesson for an intensive study of the country follows:

(1) Mouths of the Amazon—For a distance of 200 miles the mouths are 50 miles wide
(2) Amazon River—The largest river in the world; ocean steamers ascend it for 2,000 miles
(3) Negro River—The Negro and Orinoco rivers rise in practically the same place and flow in opposite directions
(4) Maderia River—Rises in the Andes
(5) Sucre—Capital of Bolivia
(6) Lake Titicaca—Most elevated large lake in the world
(7) Para—Seat of the rubber trade of the Amazon valley
(8) Cape St. Roque
(9) Pernambuco—Great shipping point for cotton, rice, sugar, and tobacco
(10) San Francisco—The largest river in southeastern Brazil
(11) Bahia—Exports much coffee
(12) Rio de Janeiro—Capital of Brazil, and center of the coffee trade

Now that the class has covered the map work and noted the physical and commercial centers, a careful study should be made of the following:

(13) The Amazon river and forest growth in its basin
(14) Valuable timber and dye woods
(15) Forest products
(16) Diamond mining
(17) Inhabitants and their homes

5. Eastern hemisphere

a. Type lesson. After the general physical map work of the Eastern Hemisphere, a type lesson Norway in Europe would consist of:

(1)North Cape—The most northern cape in Europe
(2) Hammerfest—The most northern city of importance in the world; tourists go there to see the midnight sun.
(3) Maelstrom—the largest whirlpool in the world
(4) Trondhjem Fiord—the largest fiord on the Norwegian coast
(5) Kjolen Mountains—on the boundary line between Norway and Sweden
(6) Bergen—noted for its fisheries
(7) The Naze—the most southern point of Norway
(8) Skagerrack—a very rough and dangerous strait
(9) Christiana—Capital of Norway

The special topics to be considered now are
(10) The lumber and fish industries
(11) Ship building
(12) Forest products
(13) The fiords and waterpower of the rivers
(14) Exports and imports of the country
(15) Characteristics of the people

b. Division of the year's work. About two-thirds of the year's work should be devoted to South America and Europe, and one-third of the time to Asia, Africa and Australia.

A few weeks' work should be devoted at the close of the seventh grade to a review of the large things of the world such as winds, commercial routes, exports, imports, social standards, etc.

6. Mathematical geography

a. The Solar System. The relation of the earth to the other planets in the solar system is a fascinating study to mature pupils, but should not be undertaken until the latter part of the geography course.

Teach the pupils what is meant by the solar system and what by the universe. Have them name the planets of the solar system and study them as to size and distance from the sun. It is here that the falling stars and comets should be studied until the pupil knows what they are and that both come from outside the solar system into it.

b. The movements of the earth. Fix in the minds of the pupils the two movements of the earth in the solar system. Use the globe in doing this. The pupils must always keep the axis of the earth pointing north while they are rotating and revolving it. Show that the axis is inclined 23½ degrees to the plane of its orbit and not inclined to the north star or simply inclined as is sometimes taught. Let a pupil represent the sun. Revolve the globe around him, always observing the position of the axis. Hold the globe so that it is June 1st in the Northern Hemisphere. Have pupils point with pencil to the place where it is noon June 1st; 6 P. M., June 1st, etc. Have the globe moved in the correct direction to the position of December 1st. Now let a pupil rotate the globe so that it is noon to him at his home in Wisconsin. Direct the pupils as follows:

Catharine, point to your position with reference to the sun at midnight. Where will you be at 3 A. M.? Where at 9 P. M.

Carol, rotate and revolve the globe so that it is 3 P. M. to you September 21st.

Ask others what is meant by the heat equator; the geographical equator.

Which one do people usually mean when speaking of the equator? Are either of the equators movable, Helen? If so, which one;

What is the position of the heat equator to the geographical equator June 21st in the Northern Hemisphere? What the position of the two equators March 21st?

Over what part of the earth does the sun always shine?

Have one pupil represent the sun, another the earth and a third the moon. The three should now give the movements of the three heavenly bodies. As the pupils move, ask other pupils to give the time of year or the time of year to the pupil representing the earth. Have one member of the class ask others the time of the season and the time of day as represented by some place on his body. Many other questions of a similar nature should be asked. Move objects and have the pupils move so as to show how we have an eclipse of the sun and moon. The Standard Time Belt and the International Date Line are not difficult to understand and should be taught by the use of the globe and good maps that show the time belts. The pupils should understand and be able to explain why in traveling east the watch must be set ahead and in traveling west set back.

III. TESTS FOR GRADUATION

At the close of the work in Geography the pupil should be able:

1. To enumerate at least ten ways in which North and South America are similar;

2. To enumerate the uses of water as a power and as a means of communication;

3. (a) To give the location of the great salt lakes and the cause of them;

(b) To enumerate the great forest sections of the country from which lumber and woods used in furniture are procured;

4. To name the dairy sections, the beef sections, the mining sections, the corn sections, and the commercial sections of the world;

5. To describe the general circulation of air, what is meant by high and low areas, and the causes of the rainfall regions of the world.

6. To name the exports of the leading countries of the world;

7. To name the principal imports of the United States;

8. To sketch a map of any continent, group of states or important river systems studied;

9. To sketch a map showing the great industry sections of Wisconsin;

10. To name the great commercial centers and natural features of the world.

IV. REFERENCES

1. References for pupils

Carpenter. Geographical reader. Europe. (T)
Carpenter. Geographical reader. North America. (T)
Carpenter. Geographical reader. South America (T)
Carpenter. How the world is clothed. (T)
Carpenter. How the world is fed. (T)
Fairbanks. Stories of our Mother Earth. (T)
Frye. Home geography and type studies. Ginn
Kirby & Kirby. Aunt Martha's corner cupboard. (T)
Rocheleau. Great American Industries. (T)
Toothaker. Commercial raw materials. (T)

2. References for teachers

Champlin. Cyclopedia of common things. (T)
Champlin. Cyclopedia of persons and places. (T)
Dodge. A reader in physical geography. (T)
Farmers' institute bulletins. Address E. L. Luther, Supt. Farmers' Institutes, Madison, Wis.
Gillan. Lessons in Mathematical Geography. S. Y. Gillan, Milwaukee.
New students' reference work. F. E. Compton & Co., Chicago.
Rice. Lessons on the use of the school library. Issued by the State Superintendent, Madison, Wis.
Standard reference work. Welles Brothers' Publishing Co., Chicago.
Sutherland. The teaching of geography. (T)
World almanac and encyclopedia. (T)
Any good physical geography.

Teachers should be .constantly on the watch for valuable new books as they appear.

NATURE STUDY

I. GENERAL SUGGESTIONS

1. Nature study and agriculture are too closely related subjects. The agriculture which is now a required subject in all district schools is especially adapted to the upper grades, while nature study is especially valuable in the earlier grades. It is not necessary to fix exact grade limits, but the nature study idea should be given chief prominence in the first six grades. This study should be gradually merged into agriculture which should be treated as a special subject in seventh and eighth grades. Agricultural legislation in Wisconsin as well as general practice throughout the country have come to be based upon this general plan of division. This need not mean that pupils below seventh grade can have no part in the lessons and projects in agriculture, nor that seventh and eighth grade pupils should have no share in the nature lessons. With all the grades in one department as in the typical rural school, the nature lessons can best be given as a rule to the whole school. A special class should be organized in agriculture for the combined seventh and eighth grades.

2. Place on program. While former manuals have not assigned a definite place on the daily program to the nature study, it is believed that the subject now demands such a place. It is believed also that the agriculture should have a larger place than heretofore. *It is therefore recommended that in all rural schools, the time of a regular class, or five periods a week, be given to these subjects during the fall and winter months. Of these five periods, two periods a week should be devoted to the nature study and three periods to the agriculture. During the winter months one period a week may be given to agriculture and one to the nature study.* See suggestive program, p. 15. During the winter months, the nature work should deal to quite an extent with simple experiments and studies in elementary science.

3. Viewpoint. Nature study should furnish the fundamental subject matter of education because it deals with the materials which constitute very largely the real world of every child. From this world must come that concrete experience out of which every child must construct much of his later conscious and emotional life.

What the child needs is not so much information about nature as sympathetic acquaintance and understanding of her ways in relation to himself. He needs also an awakened appreciation of the significance and meaning of the world of things upon which the concepts of life are so largely based. *Direct observation of real things by the pupils is therefore the essential basis of all nature work.* It is the business of the school to provide for a large amount of such observation. Teachers who go into the country schools should become thoroughly familiar with this rural environment so that they may be able to bring pupils into sympathetic relationship with it. The well-equipped rural teacher must know and appreciate this material as well as the usual studies.

4. Method. The method of the nature lesson should be that of a conversation exercise rather than that of the usual recitation in which pupils recite a lesson prepared from a text. Pupils should be led by skillful questions and suggestions to talk about the things they have seen. Questions and problems should be aroused and pupils should be encouraged to ask questions. As often as possible the children should be led to answer these questions by their own observations. In the world of things and especially of life what interests the child most is activity. This should be the guide in the method of developing any topic. While this should guide in the approach, there should be also the aim to round up definite and accurate knowledge and bring the pupil into sympathetic relationship with it.

II. OUTLINE OF TOPICS

The selection and treatment of topics in these outlines are based rather upon the seasonal plan than upon logical organization of subject matter. For this purpose topics are developed under the three seasonal divisions—fall, winter and spring, these being the seasons during which the schools are in session. The aim is to show teachers as nearly as possible what may be done during each of these seasons. Although it is more difficult than in most subjects to fix exact limits to the number of lessons to be devoted to each topic, nevertheless effort has been made to give as close an idea as possible. Although two periods a week during fall and spring have been definitely assigned to this work as a regular part of the daily program, yet if proper interest is aroused much will be done at odd times in the way of collecting and observing material and discussing questions which arise. It may also be wise to use a general exercise period quite often for planning the work with the pupils or for general discussion.

No text is needed in the hands of the pupils, but two or more general texts should be in the hands of the teacher as a source of

fuller information and direction than are possible in these outlines. The following are recommended:

Hodge. Nature study and life. (T)
Comstock. Handbook of nature study. (T)
Coulter-Patterson. Practical nature study and elementary agriculture. Appleton.
Bailey. The nature study idea. (T)

Nearly all the books referred to under "References" are fully described in the Township Library List which should be in every country school.

FALL TOPICS—SEPTEMBER, OCTOBER, NOVEMBER

1. Birds. *As much out-of-door observation as possible including at least one field trip. Three or four indoor lessons, extended over the whole three months.*

a. Materials: Pictures, books. See Spring Bird Study.
b. Lesson Outline.

(1) Acquaintance. Have pupils report birds seen and give coloring as closely as possible. Take the pupils out for bird observations as often as possible. In beginning bird observations in the field, it is very important to learn to approach with great care in attempting to see a bird that has been located. The observer should circle around the position of the bird rather than go directly toward it. Often the best way to see birds is to stay quietly in a sheltered spot near some good bird haunt and wait for the birds to come around. If the observer keeps quiet enough they will often become quite friendly.

Get pupils to report what they can about birds that have nested about their homes, describing habits of nest building, flight, food, songs, calls, etc. Emphasize kindness shown the birds in furnishing bird houses, food, protection from enemies.

Some new birds not seen in spring such as the nuthatch, brown creeper, downy woodpecker, etc., may be seen in the fall.

(2) Food. Insects of field or garden, fruits, grain left in the fields, wild rice on the swamps, weed seeds. Have children observe carefully wild fruits eaten and call attention to the need of furnishing these to protect the cultivated fruits. Have wild fruits that birds are observed to eat brought in for examination and identification.

Let several older pupils prepare a food chart which may be hung on the wall and on which may be recorded information gathered by pupils about food of different birds. See Hodge— p. 323.

Impress the importance of accuracy in observations. On account of faulty and superficial observations, birds are often charged with

harm for which they are not to blame. For example, woodpeckers are charged with damaging trees when they are really protecting them by capturing harmful insects about the bark. Caution pupils about making too sweeping conclusions about food habits. Check up observations by consulting authorities. See References.

(3) Songs and calls. These constitute the language of the birds and are most interesting and valuable in distinguishing different kinds. When one is afield, the first warning of the presence of a bird is often its song or call. Almost every emotion is expressed in these sounds. Have pupils notice these and report as far as possible. Songs can be imitated often either in syllables or by whistling.

(4) Protection. Among the worst enemies of birds, have been boys and men who hunt and shoot or collect eggs. Emphasize the special harm of collecting eggs. Discuss other enemies. See Burrough—Birds and bees. Arouse desire to protect the birds, so they may come back again another spring. Sum up the usefulness of birds as shown from their food habits. It is a good plan to have some of the pupils look up and report on the usefulness of particular birds or groups of birds, securing their information from farmers' bulletins, bird books, etc. See references under this topic.

Call attention to the work of the Audubon Society. See Arbor and Bird Day Annuals: 1904, p. 21; 1906, p. 23; 1907, p. 47; 1915, p. 62. See also Agri. Yearbook 1902. Many valuable leaflets on bird protection may be obtained at ½c each, by writing to the National Secretary of the Audubon Society, 1974 Broadway, New York City. Let some pupil write for these. Arbor day Annual, 1913, p. 33.

(5) Bird laws. It is an offense punishable by fine or imprisonment for any person within the state of Wisconsin unless specially authorized, to kill, injure or have in his possession at any time, any wild birds other than game birds, and not including blackbirds, crows, English sparrows, sharpshinned hawks, cooper's hawks and owls.

The following are considered game birds: wild goose, brant, wild duck, American coot or mud hen, wood duck, wood cock, plover, snipe, rail, rice hen, partridge or ruffed grouse, sharp tailed grouse, Magnolian, Chinese and English pheasant, Hungarian partridge, quail or bob-white. Certain open seasons are provided when these game birds may be taken for food.

The law also makes it an offence for any person to take or needlessly destroy or have in his possession the nest or eggs of any wild bird, for which a closed season is provided.

Laws up to and including 1911 are given in the 1913 Arbor and Bird Day Annual, p. 47. These laws are still substantially in force although they were revised in 1915 in connection with the new Conservation Commission. Let some pupil send for a copy of the

latest Fish and Game Laws of Wisconsin to the State Conservation Commission, Madison. Read and study Longfellow's Birds of Killingworth in relation to bird protection.

(6) Migration. Ask pupils about the decrease of birds as winter approaches. Where and why do they go? Let some older pupil look this topic up and present a special report to the school. See Chapman—Bird Life. Also Farmers' Institute Bulletin for 1901, p. 105. Read and study Bryant's "To a Water Fowl".

(7) Bird census. After the leaves have fallen, have pupils see how many abandoned nests can be found about their homes. Let each one make a chart showing trees, shrubbery, etc., and indicating location and kinds of nests as far as possible. For fuller suggestions see Hodge, p. 320; also Arbor and Bird Day Annual 1913, p. 88-89. Preserve the record for comparison with later years to see how much increase of birds is shown.

c. Supplementary topic—Game birds. Special study may be given to this group. Study the State Fish and Game Laws. Have reports on these and emphasize the importance of obeying the laws. See Farmers' Bulletin No. 692 on Game Laws for 1915.

d. References.

Hodge. p. 305–363; Coulter–Patterson. p. 303–313; Comstock. p. 25–147.
Chapman. Bird life.
Reed. Bird guides (T).
Farmers' bulletins. Nos. 54, 456, 493, 497, 506, 513, 609, 621, 630, 692.
Agricultural yearbooks. 1900, 1902, 1903, 1904, 1906, 1908, 1910, 1912, 1913.
See also Township library list, p. 54.

2. Insects. *Several field trips and four or more conversation exercises with such work at odd times as pupils can be interested to do. Begin about the middle of September and alternate with the bird work.*

a. Materials. Pictures (Mumford collection and in books.), caterpillars, chrysalises, cocoons, and other insect material collected by teacher and pupils, feeding boxes for caterpillars. Pasteboard shoe boxes are good for insects which do not form the pupa in the ground. Cut out rectangular pieces from opposite sides or from top and bottom and paste in mosquito netting or cheese cloth. Chalk boxes stood on end and filled half full of mellow earth, and provided with mosquito netting on two sides above the earth, may be used for forms that require earth. A few mason jars or large bottle are desirable for collecting material. A terrarium can be made. See Coulter-Patterson p. 172-173.

For those who desire to undertake preserving and mounting material—see suggestions in Hodge, Chap. III; also Farmers' Bulletin No. 607, Preserving Insect Material for use in Agriculture.

b. Lesson outline on moths and butterflies. If possible begin the work by taking a field trip with the pupils to some garden on a sunshiny day. Observe butterflies flying and suckling nectar from

the flowers. Examine a flower and find the nectar. Look for caterpillars on garden plants; cabbage butterfly on cabbage or nasturtium; carrot worm or black swallow tail on carrots, celery, parsley or parsnip; yellow-bear caterpillar and tiger moth on almost any herbaceous garden plant; milkweed caterpillar or monarch butterfly on common wilkweed; tomato worm or hawk moth on tomato and another closely allied form on tobacco. Look also for eggs found most easily on cabbage, nasturtium or milkweed. Butterflies may often be seen depositing the eggs.

Ask pupils to look at home for caterpillars and bring them to school to be fed and observed. The mourning cloak may sometimes be found on the leaves of poplar. It is important to notice the food on which the caterpillars are feeding when captured. All forms collected should be put into airy boxes where they can be fed till they have changed to the pupa form. The tomato worm and tobacco worm will require several inches of moist earth in the bottom of the box, since they form their pupae in the ground. Caterpillars of some of the large moths such as Cecropia, Polyphemus and Luna are sometimes found crawling on side walks, fences or tree trunks. When so found they have generally ceased to feed and are looking for a place to spin their cocoons. If put into an airy box, this wonderfully interesting process may be observed within a day or two and then the cocoons may be kept till spring when the emergence of the moth may be seen. Scarcely anything in nature can arouse more interest than these insect transformations. Encourage pupils to bring food and make daily observations on the material collected. Keep problems before the pupils as a motive and as a means of directing their observations. For example: See if you can find out how the caterpillar eats.

c. Conversation lesson on the caterpillar. If there are not too many pupils, this lesson can best be given with the children gathered about a table where material can be observed and talked about.

Ask such questions as the following: Where were the caterpillars found? How do you suppose they got there? How could the mother know where to put the eggs? Were the caterpillars harming or helping the plant? How do you suppose the caterpillar breathes? (Openings in the side of the body.) How does he move? How could you destroy harmful caterpillars? As caterpillars grow they shed their skins. Have pupils see if they can find cast off skins.

Lead pupils to keep close watch to see the caterpillars begin their transformation to the pupa. Butterflies attach themselves to the side or top of the box by a thread and then form a naked pupa called a chrysalis. Most moths spin a cocoon of silk and form a pupa inside.

Round up all that has been learned by adequate review and drill. Make use of stories and poems. Other lessons of similar character should be given on the pupa and the adult forms as soon as these have been observed.

The cabbage and the milkweed butterflies complete their whole life history within a few weeks, except where the pupae form very late in the fall. Trace through the entire life history of one form: egg, caterpillar, cocoon or chrysalis. Adult cocoons and chrysalises of forms which do not come out in the fall should be put away carefully in a cool place and kept for spring study.

d. Supplementary topics

(1) Other insect topics such as grasshoppers, crickets, flies and mosquitoes, ants, bees and wasps and beetles furnish valuable material for study. Emphaize especially flies and mosquitoes in relation to cleanliness and disease. See references. "Spiders" is also a good topic in this connection. Coulter-Patterson p. 159.

(2) Special forms of practical importance. May be assigned to older pupils for special topics.

(a) Codling Moth. Farm. Bul. No. 247; Agri. Yearbook 1907.

(b) Colorado Potato Beetle. Cir. 87, U. S. Dept. of Agri. Bur. of Entomology.

(c) June Bug Beetle (white grub) Farm. Bul. 543

(d) Tent-tree Caterpillar. Farm. Bul. 662

(e) The Gypsy and Brown-tail Moth. Farm. Bul. 564

(f) The Clothes Moth. Farm. Bul. 659.

(g) The Gypsy Moth. Farm. Bul. 275

(h) Annual Loss from Insects in U. S. Yearbook 1904, p. 461–474; also Separate No. 360.

(i) Relation between Birds and Insects. Yearbook 1908, p. 343-350

(j) The Plum Curculio. Cir. 73, U. S. Dept. of Agri., Bur. of Entomology

(k) The Grasshopper Problem. Cir. 84, U. S. Dept. of Agri., Bur. of Entomology

(l) Mites and Lice on Poultry. Cir. 92, U. S. Dept. of Agri., Bur. of Entomology

(m) Usefulness of the American Toad. Farm. Bul. 196

3. Tree Study. *Should be taken up about the time the leaves begin to change color. Three or more excursions and four or more conversation lessons. Leaves and fruits may be used for drawing exercises. See drawing outlines.*

a. Materials. Leaves, fruits and twigs gathered on excursions and by pupils at odd times. Tree and leaf pictures. See Mumford set. Also in tree books. See references.

b. Lesson Outline.

(1) Observation and acquaintance.

(a) List of trees: Oak (white, red, black, swamp white, chestnut, bur, scarlet, scrub), maple (hard, soft, Norway, black, red), elm, basswood, horse chestnut, box elder, ash (white, black, green, red), catalpa, hickory, walnut, butternut, birch (white, paper,

red, yellow), poplar (cottonwood, balsam or balm of Gilead, silver-leaf, aspen, large-toothed aspen, Lombardy), catalpa, mulberry.

(b) Out-of-door trips. During out-of-door trips lead pupils to notice and admire the trees. Talk about their beauty and uses; shade, homes for animals, decoration, lumber, nuts and fruit. Pick out favorite trees and in this connection give the names of several. Study these as to characteristics; general appearance of tree top, of the bark, of the leaves, collect leaves and fruits.

(c) Home observations. Have pupils find out the kinds of shade trees at home and why each was planted. Have them count the number of each kind. As the leaves take on their beautiful colors have pupils bring in attractive specimens and press some, keeping others for use in class for drawing and study.

(d) Preserving specimens. Interest pupils to preserve some beautiful leaves at home by sprinkling a little powdered rosin over the surface and then ironing with an ordinary hot flatiron. Such specimens may be brought to school for use in decoration, or the work may be done at school if conveniences can be provided.

(2) Conversation lesson

(a) Review and round up what has been learned. Test pupil's recognition of leaves by name. Test recognition of tree pictures and leaves or leaf prints. Review what trees do for us and which kinds are favorites.

(b) How trees live. (Brief general study.) Roots furnish mouths to get food from soil. Leaves serve as breathing organs and help prepare food. Trunk and branches transport food and spread leaves out to the light.

(c) Sketch leaves and label. (Do in drawing class if possible.)

(d) Assign a particular tree to each pupil for a written description.

Put this outline on the board as a guide and ask each to observe his tree carefully before writing. Use this in the language work.

(3) Tree description

(a) Name: abundance in locality

(b) General appearance: spreading, compact, loose, uniform, irregular, drooping, erect

(c) Bark: color, cracks, peeling, roughness, how does the old bark differ from the young; notice spots on the young bark (breathing pores)

(d) Branching: dose the main trunk extend to top of trees? Is branching y shaped or elbow form? (Oak an example of elbow form)

(e) Leaves: shape, color, margin, compound or simple, divided, lobed or entire, hairy or smooth, arrangement (alternate or opposite)

(f) Fruit or seed—describe if found

(g) Usefulness and importance

(4) Use of trees for wood, lumber, shade, nuts, etc. Which grow faster, hard or soft woods? Which are more desirable to plant? Show pupils that rapid growing trees are more easily damaged by wind and storm and are much less likely to form a beautiful tree. If soft woods are planted to get quick growth, hard woods should be planted at the same time. Then the soft woods may be cut down when the better trees have grown.

c. Tests in naming trees. Give the pupils many tests at odd times out-of-doors in giving correct names of trees at a glance. Stimulate rivalry here. A more formal test may be given by giving a series of trees numbers and asking pupils to write the correct name with the corresponding number. This may be done also in the schoolroom using pictures and leaf specimens. Older pupils should get to know *twenty* or more trees the first year of this study, and ten additional ones each year till they know most of the trees of the region. Younger pupils should learn *eight* or *ten* the first year and new ones each year. Pupils should also learn the common shrubs.

d. References.

Hodge, Coulter–Patterson, and **Comstock** for source material.
Keeler. Our native trees (T).
Keeler. Our northern shrubs (T).
Stokes. Ten common trees.
Arbor and Bird Day manuals.
Tree pictures. A. W. Mumford, Publishers, Chicago.

4. Fall flowers. *Several out-of-door trips for observing and gathering flowers, one or more inside lessons if there is time. A good deal of directed observation by the pupils at odd times.*

a. Materials: Books and pictures for identification. Weed books and bulletins will help. See references.

b. Lesson outline.

(1) Acquaintance and beauty are to be given chief emphasis here. Weed study in the agriculture class will emphasize the economic viewpoint. Utilize flowers collected as far as possible for bouquets to beautify the schoolroom. Guard against the tendency to pluck every flower in sight, carry it a short time and then throw it down to wither and die. A number of fall flowers are poisonous and this fact should be developed.

(2) List of showy fall flowers: golden rod, aster, wild sunflower, black-eyed Susans, oxeye daisy, common milkweed, butterfly weed, swamp milkweed, bush clover, blazing star, rosin weed or prairie dock, wild verbena, fire weed, iron weed, cardinal lobelia, great blue lobelia, corn cockle (seeds and plant poisonous), common St. John's wort, evening primrose, tall buttercup (in northen Wisconsin), bouncing bet, yarrow, tancy, daisy fleabane, toad flax, chicory, Jimson weed (plant, flower and seed poisonous), snow on the mountain or marginate euphorbia (juice and nectar poisonous), chicory, fringed gentian, closed gentian. For other poisonous plants see Hodge 102-118.

(3) Lessons

(a) Detailed study of golden rod. Coulter-Patterson, p. 194.

(b) Detailed study of dandelion. Coulter-Patterson, p. 134.

(c) Study of the Composite head,—use garden sunflower if available. Black-eyed Susan or aster will do. Distinguish ray and disk flowers. Compare with spring flowers. In specimens of wild aster or dandelion see how the seed is provided with a downy parachute attached to the seed by a stalk. Show how this works and bring out advantages.

c. Tests in naming flowers. Tests as under tree study. Older pupils should learn to know at least *twenty* kinds the first year and increase the number each year, younger pupils *eight–ten* kinds the first year and more each year.

d. Supplmentary topic. *Seed distribution*: aster, thistle, burdock, golden rod, box elder, common milkweed, beggars ticks. See references below.

e. References

Hodge. Chap. VI (T); Coulter–Patterson, p. 191; Comstock, p. 489–595. (T.)
Reed. Flower guide, Doubleday. Many colored pictures.
Dana. How to know the wild flowers (T)
Dana. How to know the wild flowers (T).
Beal. Seed dispersal, Ginn.
Pictures in colors: A. W. Mumford, Chicago; Perry Picture Co., Malden, Mass.

5. The common toad. This is a most interesting and valuable topic. Scientists after careful study have shown that a single toad is worth approximately $19.88 annually on account of the harmful insects it destroys. The topic should be started in time so that a few toads may be kept in the schoolroom for observation and then put back out-of-doors in some garden before freezing weather begins. The observations must be made also when plenty of insect material is available for food.

a. Materials

(1) A box or terrarium for keeping adult toads in comfortable condition. The box should be a convenient size and supplied with a tight cover hinged on. In the box should be placed a moist sod and a flat dish containing water. The sod must not be allowed to dry out. Part of the front side of the box should be cut out and replaced by a glass so as to make it possible to watch toads capturing food.

(2) Several adult toads, flies, caterpillars, grubs, angleworms, etc., for feeding toads.

b. Lesson outline. Emphasize how the toad lives: movement, breathing, seeing, hearing, burrowing and especially habit of capturing food. Toads eat only live food and capture it only when in

motion. Encourage children to secure food material; place it in the box near the toads, and then watch the toads capture it by means of the forked tongue which is attached in front.

One or two formal lessons will be enough to round up what the pupils have learned. Be sure the toads are put out in some garden before freezing. Emphasize importance of protection from cruel treatment, bonfires, etc.

c. References

Hodge. Chap. XVI. (T). *Comstock* p. 181 (T); *Farmers' bulletin No. 196.* Usefulness of the American toad; *Arbor Day Annual, 1914.* "The Tale of a Toad."

6. Supplementary topics for fall

a. Miscellaneous topics. The following topics can be made interesting and valuable but space does not permit detailed outlines: *Mushrooms, house moulds, mosses, ferns and lichens, green scums, snails, slugs, turtles, snakes.*

For pictures of mushrooms see Arbor and Bird Day Annuals 1911, 1912, 1913, 1915.

b. Garden Work. Let the younger pupils have a part with the older ones in the fall exhibit. See under agriculture.

Winter Topics—December, January, February

1. Birds. *Individual observations and reports and one or more special lessons.*

a. Acquaintance

(1) List of possible winter birds: White-breasted nuthatch, red-breasted nuthatch, downy woodpecker, hairy woodpecker, blue jay, Canada jay (in the north), chickadee, evening grosbeak, pine grosbeak, snow flake, red poll, crow, hawks, owls.

(2) Have pupils report birds seen and give coloring as closely as possible. Get reports also about what the birds were doing. Use pictures for identification and further study of coloring. (Mumford pictures, Arbor & Bird Day Annuals, Chester A. Reed's Bird Guides). See general list of references.

b. Food and protection. Tack up a piece of suet or fat meat on the trunk of some tree near the schoolroom window to attract the birds. Get pupils to do this at home. This gives a fine chance to make the acquaintance of the nuthatches, downy woodpeckers, blue jays and sometimes the chickadees. Put up a "lunch counter" in some sheltered place and supply it with food. Read such stories as "The Birds Christmas" (chickadee) in Poulsson's Child World, also stories of winter birds in Lovejoy's "Nature in Verse." Develop spirit of sympathy and protection. See Farmers' bulletin No. 609 on lunch counters.

c. References. See general references: Hodge, Comstock, Coulter-Patterson. See also references under fall and spring bird study. Arbor and Bird Day Annual, 1907, p. 21, "Winter Birds in Wisconsin."

2. Cone bearing trees. *Observations of trees at home. A few out-of-door trips to see evergreens in or near the school grounds and collect leaves and cones. Two or more lessons on cones, leaves and general study. Drawing exercises sketching leaves, cones and trees.*

a. Acquaintance. Have pupils find out kinds at home. Note differences in general appearance, branching, leaves, cones. Identify by means of books and pictures.

List: White pine, yellow pine, Scotch pine, Norway or red pine, scrub or jack pine, white spruce, black spruce, Norway spruce, balsam fir, larch, tamarack, white cedar (arbor vitae), red cedar are all common in Wisconsin.

b. Lesson on leaves and cones

(1) Leaves: Needles, sheath at base, count number of needles in different trees, why green, when do they fall, uses of needles, what makes the moaning of the wind in the evergreens?

(2) Cones: position on tree, produce seeds, scales protect seeds, number of seeds to each scale. Shake seeds out and see how they fly (wings). Pine cones take two years to mature, small immature cones may be found. Do evergreens bear flowers? (Cones correspond to flowers). Watch for new cones in the spring (male cones produce yellow pollen dust, female cones produce seed).

c. For outline for tree descriptions see fall tree study.

d. Connect evergreen study with Christmas.

e. Uses of cone bearing trees: lumber, pitch, balsam, turpentine. Connect with geography.

f. Tests in naming evergreens. Older pupils should know *six-eight* kinds the first year and should later become acquainted with all that grow in the locality. Test by using pictures, leaves, cones.

g. References

See fall tree study
Poulsson. In the child world,—for stories and poems
Cooke. Nature myths and stories (T)
Lovejoy. Nature in verse (T)
Mumford. Set of tree pictures. A. W. Mumford, Chicago

3. Animal study

a. Animal pets. Dogs, cats, rabbits, a lamb, a calf.

The purpose of this work is not to study structure or simply give information of any kind about these animals, but rather to develop a sympathetic interest in them, leading to desire for their acquaintance and companionship and appreciation of their usefulness. The children should be led to see how much the lives of these animals are like their own. This is the only true basis of sympathy.

The observations and experiences of the children at home will serve as sufficient concrete basis for the school exercise. This exercise should take the form of a conversation lesson with questions which lead pupils to tell about animals they have at home, why they like them and what they can do. A pet rabbit might be

brought to school and kept in a comfortable place for a few days for children to feed and observe.

The following questions illustrate the method: How many have some animal pet at home that you take care of? What does your dog eat? What kind of a dog is he? What tricks or other things can he do? Which can run faster, you or the dog? Does he ever get lonesome? Can he laugh or cry? In what way is the dog like us? In what ways does he help us? How many would like to own a dog? Who can tell some story about his dog? What reason for thinking that a dog has love for his master? Let the questions lead to conversation on the following topics: fidelity and love for master, unselfish devotion, courage, strength and endurance, keen scent, companion and playfellow, games and tricks, fetching sticks when thrown, drawing sleds and carts, sitting up, begging, speaking.

After the conversation lesson, read the children some good stories about dogs, cats or other pets. See references: Eddy, Carter, Ollivant.

This work furnishes the motive and content for some of the most valuable work in language and reading and might well be done in those classes. Try this plan of conversation exercise to help break up the common mechanical, dead way of reading. Some vital thought in the pupil's mind based on interesting experience and an eager desire for expressing this thought are essential to good expression. This work on domestic animals is especially valuable for the younger children.

b. Wild animals

The love of thrilling adventure and of heroic deeds is a leading interest in children above the fourth grade and to some extent before. Interest is also strong in controlling nature and in hunting wild game. These interests should direct the animal study. It should consist of conversation about animals the children have seen and of stories about the lives and heroic deeds of wild animals. There should be an effort to cultivate sympathy and kind treatment of all animals by man, and a desire to protect them from cruel treatment or wanton destruction. Urge the need of obeying the game laws. Show how animals like the buffalo have become extinct through wanton killing. Show also how Yellowstone and other national parks have become the refuge of the wild animals through the protection of the U. S. Government.

No special lessons are necessary. A good deal of the animal study may be done in the geography class, some in the reading and language. Stories may be read to the whole school. Pictures should be used extensively. Test and make use of all the experiences pupils have had with wild animals seen in the woods, at menageries, or elsewhere. Emphasize food and habits of the animals of the locality such as—squirrels, rabbits, chipmunks, ground hog, muskrat, moles.

c. References

Hodge. Chap. III (T); Coulter–Patterson p. 107
Readers that contain animal stories
Mumford. Colored pictures of animals. A. W. Mumford, Chicago
Carter. Animal stories retold from St. Nicholas (T)
Eddy. Friends and helpers (T)
Hornaday. Our vanishing wild life (T)
Ingersoll. Wild neighbors (T)
Kipling. The jungle book (T)
Long. Ways of wood folks, and others (T)
Ollivant. Bob, son of battle (T)
Seton. Wild animals I have known. Scribner.
Warner. A hunting of the deer
See also Township Library List for additional titles (p. 44–52)

4. Simple, physical and chemical experiments. Experiments may be worked and discussed once a week at the general exercise period. Odd times may be used for further experiments if interest is great enough. As a rule the teacher should work the experiments, though pupils may help. Problems should be raised before and during the experiment. Do not tell pupils what occurs but get them to tell from their own observation. Most of these experiments should be tried by the teacher before they are attempted before the school.

a. Materials. May be ordered through any druggist or the chemicals may be obtained of a druggist and the apparatus ordered directly from some scientific company such as Central Scientific Co., 412 Orleans Street, Chicago, or C. H. Stoelting Co., 3047 Carroll Ave., Chicago.

6 tumblers, thick walled... .30
12 test tubes 6 in. x ¾ in.... .25
6 wide mouth bottles, flint, 8 oz..... .20
2 glass funnels 2½ inch... .18
4 feet glass tubing, soft glass, 3-16 outside diam., in 2 foot lengths..... .06
1 alcohol lamp, glass with cap and wick, 4 oz..... .25
1 pan, 2 quart..... .10
1 triangular file, 5 inch.... .05
2 rubber corks, 2 holes size to fit wide mouth bottles .20
1 rubber cork, 1 hole, No. 3 ..... .05
12 inches rubber tubing, gum, ⅛ inch inside diam. .06
2 candles, paraffine (at any grocery ..... .03
1 steel glass cutter..... .10
6 glass plates 4 in. square (cut from fragments of window glass).
Pine splints, homemade.
Broom wire or stove pipe wire.
Wood alcohol for lamp, 8 oz. ..... .10
2—3 tin cans.
2 lamp chimneys..... .16
Several old bottles obtained from home.
Rack to hold test tubes, homemade.
Litmus paper 1 sheet red, 1 sheet blue ..... .12
Powdered sulphur, 1 oz.... .05
Chlorate of potash, 2 oz.... .05
Hydrochloric acid, commercial, 4 oz. bottle..... .10
Sulphuric acid, com., 4 oz. bottle ..... .10
Charcoal, a few pieces from any coal dealer.
Quick lime, a few small pieces from a lime dealer, kept in a tightly corked bottle.
Soda. A couple of tablespoonfuls.
Zinc, waste pieces from batteries or sheet zinc, or order granulated zinc, 4 oz. .05
Marble, a few small pieces, if ordered, 3 oz. ..... .05
Manganese dioxide, powdered, 4 oz..... .05
Ammonia, 4 oz. bottle..... .05

b. Outline of experiments

(1) Air is a gas which occupies space

(a) Exp. 1. Pass a small funnel through one hole of a two hole stopper, fitted tightly into a wide mouth bottle. Plug the other hole and then pour water into the funnel. Lead pupils to see why water does not go through into the bottle. Remove plug and explain result. Why does there have to be an air hole in drawing cider or any other liquid from the bung hole of a barrel?

(b) Exp. 2. Fit an exit tube in the hole which was plugged. For bending and connecting glass tubing see some chemistry. Pass this exit tube under the mouth of a bottle filled with water and inverted in a pan of water. Pour water through the funnel and collect the escaping gas as it passes out of the exit tube. Lead pupils to see that the bubbles passing into the second bottle are filled with air, and that water could not go into bottle No. 1 until this air had some way to escape. Bring out also that water is forced out of bottle No. 2 by the air which enters and rises to the top.

Try to force an inverted tin can under water. Why does water not enter? Punch a small hole in the bottom (upper end when inverted) by using a sharp file, and note the effect.

(2) Air exerts pressure

(a) Exp. 3. Place a piece of thin cardboard over a tumbler completely filled with water. After making sure that the card fits tightly, quickly invert over a pan. Lead pupils to see that the pressure of the air holds the cardboard and prevents water coming out.

(b) Exp. 4. Fill a tall bottle completely with water. Cover with finger or cardboard and invert quickly into a pan of water as in Exp. 1. What holds the water up? Get pupils to make or secure a pop gun. (Can be made out of elderberry.) Explain what forces the cork out, why it doesn't fly out at once when the ram rod starts and what makes the noise.

(c) Exp. 5. Carefully warm a thin walled narrow necked bottle or a test tube over the alcohol flame and then quickly invert the bottle into a pan of water. Heat expands the air and drives part of it out of the bottle. What remains when it cools exerts less pressure than the air outside. The greater pressure outside forces the water in. Lead pupils to see that air is capable of expansion and contraction.

Problem. Atmospheric pressure will sustain a column of mercury about 30 inches high. Mercury is 13.6 times as heavy as water. How high a column of water will air pressure sustain? Apply to the common lift pump. This pressure is sometimes stated as 15 pounds on each square inch of surface.

(3) Variations of pressure—Cause of wind

(a) Exp. 6. Select a small wooden block that will fit into the inside of the base of a lamp chimney. By heating the lower end of a short candle seal this on to the block so that the candle will stand upright on this base. Fix three other small blocks to set under the chimney for the purpose of raising it about half an inch so as to admit air from below. Now light the candle and place the chimney over it with the small blocks in place as directed. After the candle has burned a few minutes, test the currents of air at the top of the chimney and at the sides below. Test by using small bits of cotton or better, thistle or milkweed down obtained from the seed of these plants. Bring out how wind is due to variations of pressure. The heat of the candle expands the air causing it to flow out above and thus resulting in low pressure below. Air then pushes into the heated area from high pressure regions outside. Illustrate on the board by a drawing with arrows to show directions of currents. Study weather maps if available.

(b) Exp. 7. Make a siphon out of glass tubing, rubber tubing or some kind of piping. It should be in the form of a U with one arm longer than the other. To start it, fill it completely with water and then while covering both ends tightly, lower the short arm into a dish of water. Then release both ends. Have an empty dish ready to catch the water from the long arm. The siphon may be filled by placing the short arm under water and then sucking water through by applying the mouth at the end of the long arm. Show how atmospheric pressure causes the siphon to flow.

(4) Air has weight

It takes 87.5 gallons of air to weigh a pound. Find the weight of a quart. See if pupils can think out a method of weighing air.

(5) Composition of air

(a) Oxygen

Exp. 8. Prepare two or three bottles of pure oxygen as follows. Connect a delivery tube with a test tube as in Exp. 2 except use a one hole stopper to fit the test tube. Place about two thimblefuls of potassium chlorate in the test tube and add half as much clean fine sand or better manganese dioxide and mix the two thoroughly. Now connect the delivery tube. Next fill and invert three receiving bottles in a pan of water. Then begin heating the mixture in the test tube slowly at first, and afterward, applying more heat. After allowing the air in the apparatus to escape collect the oxygen given off in the receiving bottles as in Exp. 2. As soon as these bottles are filled cover with glass plates and set in upright position. Thrust a glowing (not blazing) pine splint into one bottle of oxygen. Fasten a piece of wire to a piece of charcoal, heat to glowing in the flame and then thrust into a bottle of gas. Sulphur may be burned in oxygen by fastening a piece of wire to an old thimble, putting a

little powdered sulphur into the thimble, setting the sulphur on fire and then thrusting quickly into a bottle of oxygen. Get the pupils to see that pure oxygen is much like air but that substances burn much better in it. Oxygen constitutes over one-half the entire weight of the crust of the earth and is necessary for all burning and for the breathing of animals and plants. It constitutes about ⅕ of the volume of the air.

(b) Nitrogen. Exp. 9. Make a torch by fastening a wad of cotton on a piece of broom wire a foot long. Now loop the wire at about the middle and bend nearly double. Next fill a tumbler half full of lime water. Have ready a wide mouth bottle. Dip the cotton torch into alcohol; lower the loop to the bottom of the tumbler of lime water; light the torch, and quickly invert over the torch the empty wide mouth bottle, dipping the mouth of the bottle below the surface of the lime water. The burning forms carbon dioxide, but this is combined with the lime water as shown by the milky effect. As this combination takes place note the changes of level of the lime water in the bottle. Explain. Shaking the bottle about in the tumbler helps the combination. After 5–10 minutes draw out the wire and torch not allowing the mouth of the bottle to come above the surface of the lime water. Now carefully lower a glass plate into the lime water so as to cover the mouth of the bottle. Hold the plate on firmly and quickly bring the bottle out of the lime water and place in an upright position. Keeping cover on, shake thoroughly to get all the carbon dioxide combined with the lime water. What remains in the bottle is nearly pure nitrogen. The gas can be transferred easily to a clean bottle by inverting into a pan of water; filling a second bottle and inverting this into the same pan without admitting air and then carefully bringing the mouth of the bottle containing the gas under the mouth of the one containing water, keeping the mouths of both bottles under water. As the bottle with the nitrogen is slowly brought to a horizontal position under the water, the gas will pass up into the clean bottle. Remove as before keeping covered in an upright position. Note color and appearance. Try burning a blazing splint in the gas. Try burning charcoal or sulphur as in oxygen. Nitrogen neither burns nor supports burning. Of what use is it in the air? Care must be taken to see that air does not get in at any time during this experiment. With only a loose cover, air is sure to mix in within a short time, so make the tests at once. Nitrogen constitutes about four-fifths of the volume of the air.

(c) How to prepare lime water. Place about a spoonful of unslacked lime in a clean quart bottle and fill the bottle nearly full of water. Cork and shake thoroughly for several minutes, then set aside until the undissolved lime settles and the liquid above becomes perfectly clear. Pour off the clear liquid into another clean bottle. Cork tightly and the lime water is ready to use. If kept tightly corked it keeps well for several weeks but becomes decom-

posed if kept very long. If filter paper is available the lime water may be made for immediate use by filtering instead of allowing the lime to settle.

(d) Carbon dioxide. This has been formed already in Exp. 9.

[1] Exp. 10. Expose a little lime water in a small, clean flat dish and let stand exposed to the air 10–15 minutes. Look for white scum on the surface showing presence of carbon dioxide in the air. Transfer to a test tube and shake. Compare with effect in Exp. 9.

Prepare pure carbon dioxide as follows: Fix a delivery tube into a small wide mouth bottle, through a one hole stopper. Place a few small pieces of marble or a teaspoonful of soda into the bottle and then add vinegar or better strong hydrochloric acid diluted with about twice its own volume of water. Connect the delivery tube and after all air is out of the apparatus collect several bottles of the gas as in Exps. 2 and 8. The gas is heavier than air and may be poured from one bottle to another like a liquid. Pour some into a bottle containing an inch of lime water. Shake thoroughly. The milky effect as already seen is a test for the gas carbon dioxide. Lower a burning match or splint into another jar of the gas and note effect. Sum up the properties of the gas. If mixed with air carbon dioxide furnishes a food material to plants. When pure it suffocates either animals or plants. Discuss the danger from this gas in mines, wells and caves. Have children find out about the miner's safety lamp. How could carbon dioxide be detected in a well or cave?

[2] Exp. 11. Try dissolving away the shell of an egg by placing the egg in vinegar or dilute hydrochloric acid. The egg becomes soft which is an interesting mystery to the children. They might try this at home. What are the bubbles which form about the egg shell? The shell is the same substance as marble.

(6) The gas hydrogen. Exp. 12. To prepare hydrogen use a generator as in Exp. 10. Use pieces of zinc instead of marble or soda. Add dilute hydrochloric acid (1 part strong acid to 4 parts water). Be sure to let all air escape, then collect three bottles of the gas as in Exps. 2, 10. Be careful not to spill any strong acid on floor, hands, or clothing. Sulphuric acid such as that used at creameries for testing milk may be used instead of hydrochloric but special care must be taken in mixing this acid with water. Pour the strong acid very slowly into the water not the reverse. Wait till the mixture cools before using. Leave the bottles of gas in the water till ready to make tests or if you take them out place them in an inverted position since hydrogen is so much lighter than air that it escapes quickly if the bottles are left upright even though covered.

Now try lighting the mouth of one bottle of the gas by applying a lighted candle or taper, holding the bottle still inverted at arms length. Note the puff or slight explosion and look out for a nearly colorless flame which is due to the gas burning in air. Avoid letting air mix with the gas before lighting since a violent explosion may occur when the gases are mixed.

Thrust a lighted splint quickly into a bottle of the gas. Does hydrogen support burning of the splint? Hold a piece of cold, dry glass over a hydrogen flame after lighting one of the bottles. Look for drops of water collecting on the glass. The water is produced by the hydrogen uniting with the oxygen of the air in burning. Sum up the properties of the gas. Hydrogen is an important constituent of illuminating gas and is present in a combined state in most combustible oils such as kerosene, gasoline, etc.

(7) Evaporation and condensation

(a) Exp. 13. Fill a tumbler nearly full of water, mark the position of the water surface and then let stand in a warm place for a day or two. Note position of surface again. Get pupils to explain the loss of water. How is maple sugar made? Is there any way to moisten the air in your school? How?

(b) Exp. 14. Hold a cold, dry glass plate over a dish of water heating on a stove, or over a tea kettle containing hot water. What collects on the glass? Why?

(c) Exp. 15. Expose a dish of ice water in a warm damp room and note drops of water. Explain. The room may be too dry. Ask for other examples: drops of water on a pump spout or on a pitcher of cold water in summer, water on glasses in the kitchen on wash day, formation of frost.

(d) Exp. 16. Frost may be made by packing a tin can (coffee or tomato) in a mixture of ice and salt as in an ice cream freezer. Look for frost on inside of can. Note crystals. Get pupils to explain. Make application to weather phenomena.

(8) Solution and crystallization. Exp. 17. Make a strong solution of salt and another of sugar in tumblers. Let them both evaporate nearly to dryness in a warm place. Study the form of the crytals. Formation of large crystals is facilitated by hanging a string in the solution. Have pupils bring from home some of the deposit from a tea kettle. Discuss its formation. Why do white spots form inside of a water picther? How can they be removed? (Vinegar or lemon juice.) Explain.

(9) Heating and burning

(a) Exp. 18. Lower a burning candle into a wide mouth bottle, cover with a glass plate and note effect on flame. Why does it go out? Do the same leaving bottle open. What difference? Show that the candle will burn longer in a large than in a small bottle. Why will water or a blanket put out fire? Why does a fire burn more fiercely on a windy day?

(b) Exp. 19. After burning a candle as in the first part of Exp. 18, quickly take out the candle and pour in lime water. Recover and shake. What was formed by the candle burning in air?

(c) Exp. 20. Place an inch of lime water in a tumbler and blow several breaths into it by means of a pipe stem, a straw or a glass tube. Note change in lime water. Where did the carbon dioxide come from? (Oxidation of substances in the body containing carbon). Why don't our bodies burn up?

(d) Exp. 21. Hold a cool, dry glass plate a little above the flame of the alcohol lamp for a moment or two. Do not get it into the flame and avoid getting it hot enough to break. What collects on the glass? Water is another product of the burning of most substances.

(e) Exp. 22. Partially burn pieces of match, scraps of paper, small corks, etc., and note the black substance formed. This is carbon or charcoal. Other forms are coal, coke, peat and diamond. How do sugar and starch change when they get on a hot stove? Explain. Most combustible substances contain carbon combined with oxygen and hydrogen. Incomplete burning forms the carbon. Complete burning changes this to carbon dioxide. Have certain pupils look up and report on these topics: manufacture of charcoal, how coal is formed in the earth.

Smoke a piece of glass or porcelain in a candle flame. Explain where the carbon comes from and why it forms (cool surface lowers the temperature so that burning is incomplete). Show that the smoke may be burned off in the alcohol flame. Heat very slowly at first to avoid breaking.

(f) Exp. 23. Arrange an iron rod about 8 inches long so that a match head rests on one end and the other end is in the heat of the alcohol lamp. Heat till the match takes fire. How does the heat get from one end of the rod to the other? (Conduction).

(g) Exp. 24. Repeat Exp. 6 and show how heat is carried to the layers of air above the candle. Fill each of two test tubes half full of water. Heat both over the alcohol lamp, applying the heat in one case to the bottom and in the other to the top of the water (can be done by tipping the test tube). Explain how currents move in water. Study circulation of air currents in the heating and ventilating system of the school building. How does heat get to the other parts of the room from a hot stove? (Mostly radiation). How does the jacket usually found in country schools affect the transfer of heat.

(h) Exp. 25. Secure a bolt on which the nut fits snug but screws easily. Take off the nut and heat the screw end of the bolt hot in the alcohol flame. Then try screwing on the nut while the screw end is still hot. Use a holder to avoid burning fingers. Discuss the following: the setting of wagon tires, how the rails of a railroad track are layed in summer, why cracks are left in the laying of cement walks and street pavements, why telephone wires sag more in summer than in winter, why cracks occur in the road in very cold weather.

Study the principle of the thermometer.

(10) Acids, bases, and salts.

Exp. 26. Test the following substances with both red and blue litmus paper: hydrochloric acid, soda, vinegar, lemon juice, table salt, ammonia, sulphuric acid, lime water, chlorate of potash. A little of each of these substances should be added to about an inch of water in a test tube and then small strips of litmus paper should be dipped into each solution. Acids change litmus red, alkaline substances blue and neutral substances have no effect or produce an intermediate color. To a very weak solution of vinegar which shows an acid test add lime water till a neutral color is obtained. Acids and bases neutralize each other and form neutral substances called salts. Test soil by packing a damp sample about strips of red and blue litmus paper and leaving for 15–20 minutes. Many soils are acid. What should the farmer add to such soils?

(11) Electricity and magnetism, light. A few simple experiments may be made most interesting and practical if there is time. See Township Library List, p. 38.

(12) References

Comstock, pp. 825, 850, 877, 915 (T)
Coulter–Patterson, p. 235, 264
Holden. Real things in nature (T)
Textbooks of physics and chemistry; any of the many texts in general science

5. Insect study. No special exercises. Look out for cocoons which may be kept to observe the coming out of butterfly or moth in the spring. Several of the large cocoons are found on the branches of trees and shrubs.

6. Preparation of bulbs. These may be prepared in February or early March for spring blooming. Bulbs of narcissus, daffodil, jonquil and hyacinth can usually be obtained at stores, or certainly at any greenhouse. They can be secured also by sending directly to some seed house. Put the bulbs in good earth in plant pots or window boxes. Set the bulbs several inches below the surface. Hyacinths should be kept in the dark till buds are well started. Tulip bulbs should be put in the ground outside before the ground freezes in the fall.

Spring Topics—March, April, May.

1. Birds. *As much time as possible out-of-doors to observe the birds as they return with their spring migration. Encourage pupils to watch for them and report for the bird calendar. Two or more special field trips. Four or more special exercises. At the opening exercises get reports and make additions to the bird calendar.*

a. Materials

(1) Pictures and books for identification
A. W. Mumford, publisher, Chicago. Send for list—1-3 cts. depending on number. In colors

Perry Picture Co., Malden, Mass., 2 cts. each for 13 or more. In colors

Chester A. Reed. Bird guides. See township library list. p. 54, 55

National geographical magazine. May, 1914, Aug., 1915, Washington, D. C.

Arbor and bird day manuals since 1906. See fall bird references. A large collection of fine colored plates.

National Audubon Society, 1974 Broadway, New York.

(2) Old boxes for making bird houses. Tools at homes of pupils or any manual training equipment available at school.

b. Lesson outline

(1) Acquaintance. Place the following diagram on the board. Drill on the parts. To identify birds it is necessary to locate colors accurately and familiarity with the names of these parts will help greatly. Have pupils point out on the diagram the position of colors on birds observed and reported.

Diagram to Show External Parts of a Bird.

Explanation.

1. Bill, 2. Forehead, 3. Lore, 4. Chin, 5. Crown, 6. Auriculars, 7. Nape, 8. Hind Neck, 9. Throat, 10. Back, 11. Scapulars or Shoulders, 12. Lesser Wing Coverts, 13. Middle Wing Coverts, 14. Greater Wing Coverts, 15. Tertiaries, 16. Secondaries, 17. Primaries, 18. Breast, 19. Belly, 20. Flanks or Sides, 21. Under Tail Coverts, 22. Rump, 23. Upper Tail Coverts, 24. Tail, 25. Heel, 26. Toes.

(2) Bird calendar. Have daily reports after the birds begin to appear. Keep a record of names of birds, earliest dates when seen and name of pupil first reporting. Stimulate rivalry in reporting as many as possible. Accuracy in reporting may be stimulated by forfeiting one whenever a wrong report is made. Keep the calendar on the corner of the blackboard or on a special chart as follows:

BIRD CALENDAR FOR 1916, MADISON.

Name of bird	Dates when seen	Name of pupil reporting
Robin	3/13	Geo. Miller

Have coloring reported as fully as possible using diagram of external parts.

(3) Attracting birds

(a) Bird houses. Start a contest in making bird houses. This should be begun early enough so that an exhibit may be held before time to put the bird houses up. Wrens, blue birds, white-bellied swallows, martins and occasionally other birds can be attracted to nest in a box. A wren house should be small and should have a hole the size of a quarter to keep sparrows out. Martin houses should have compartments for a number of pairs of birds. Houses other than the wren house should not be put up till the sparrows have built elsewhere or if houses are already up, stop up the holes at least till the desired birds come to take possession.

Houses should be put up on poles ten or more feet high or they may be suspended in trees. Protection from cats is important.

For pictures and plans of bird houses,—see Hodge p. 332; Arbor and Bird Day Annual 1911; Farmers' Bulletin on Bird Houses No. 609; State Conservation Commission, Madison, Chart on Bird Houses. Send for illustrated catalog of the Dodson Bird houses. Jos. H. Dodson, Kankakee, Ill.; See Manual training projects in this manual.

(b) Material for nests. Scatter cotton, string, small bits of cloth, etc., about the yard or on the branches of trees and watch for the birds coming to take them for nests. Yellow warblers and orioles and often others will take such material eagerly at the time they are building their nests.

(c) Drinking and bathing places. Put up some flat dish of galvanized iron or granite in some place protected from cats. Hodge wood, p. 330.

(d) Food. Continue observations and reports. Make further records on the food chart. See fall bird study. Put out a bird lunch counter. See Dodson's catalog. Also Farmers' bulletin No. 609.

(4) Songs and calls. Continue work suggested in the fall.

(5) Bird laws. Review the fall work.

c. Tests in knowing birds. See which one can get the largest number right on a field trip. Keep a list by number as under fall tree study. Give similar tests using pictures. Older pupils should know *fifty* or more birds the first year and at least a *hundred* before leaving school.

d. References. See fall bird study.

2. Insects. *One or two lessons when butterflies or moths come out. A lesson on any other available material such as June bug beetle or codling moth.*

Close watch will have to be kept of cocoons and chrysalids kept over winter to see when they begin to come out. The large moths usually come out in May, butterflies may come out a little earlier. Let pupils observe the coming out if possible and then have a conversation lesson bringing out the following: name, movements, how the moth sees, how he feeds, how he eats (some large moths have no mouth parts, other moths and all butterflies have a coiled sucking tube), covering of the wings, etc.

Ask such questions as the following: How did the moth get out of the cocoon? Where did he come out? Of what use was the cocoon? What is the cocoon made of? (silk). Cut the cocoon open and note the shell of the chrysalis which the moth sheds before coming out. Find also the last molt of the caterpillar. Round up the complete life history: egg, caterpillar, cocoon, adult. Lead pupils to see what wonderful lives these insects lead.

After the study let the pupils see the specimens fly away through an open window or from out-of-doors. If some of the older pupils want to mount specimens, they may be killed and mounted according to directions in Hodge Chap. III, or in Farmers' bulletin No. 607, "Preserving Insect Material." Ask children to observe butterflies sucking nectar from flowers and to find out how the nectar is obtained.

References. See under fall insect study.

3. Garden work. *Special lessons on this topic should be given in connection with the agriculture. Nature study time may be used if needed in planning gardens. Lesson on earth worm should be given to all the pupils.*

a. General suggestions. Younger as well as older pupils should be urged to have gardens. The plots for the younger ones should be small and they should plan to raise a smaller number of products. Flowers interest younger children especially. Pupils having field projects should not as a rule try the garden in addition. For full directions about garden work see under "Agriculture." While no formal lessons need be given to the younger children they should receive some simple instructions on seeds, soil, etc., in connection with their gardens. All the pupils as far as possible should have a part in the fall exhibit.

b. Conversation lesson on earthworms. Ask pupils to observe them at home in connection with work in their gardens. Observe any found in connection with soil preparation or planting at school.

Raise questions for pupils to find out, e. g. Find out what kind of feet the earthworm has and how they are used? How does an earthworm get into the ground? Look for earthworms coming out of their burrows on a warm damp night on the lawn or in the garden. They may be seen by use of a lantern. What do they come up for? (To get vegetable food mainly). Look for their castings left on the surface. Do angleworms rain down? Why are they so abundant after

a rain? (Burrows fill with water). Can these worms see? Why? Note the body segments. Look for egg and sperm openings on segments 14 and 15. Look for egg capsules when digging in the soil, light brown sacs about the size of a radish seed. What are these sacs for? (Contain eggs which develop young worms.)

Sum up how they live and their benefits? Movements, feet, (four rows of bristle feet) breathing, sight, burrows, food, habit of coming up at night, castings, need of air, admitting air to soil, leaving wastes which supply food to plants, bring up new soil from below, where they spend the winter, egg capsules.

c. References

Coulter–Patterson, p. 203; Comstock, p. 596–675; Hodge, Chap. VIII.
Farmers' Bulletins, 154, 195, 218, 220, 255, 521
Township library list, p. 66–76

4. Arbor Day and landscape work. *The young pupils should have a part in the planning and planting, but do not need any special lessons. Give the lessons in the agriculture. See Course of Study, p. 104.*

a. Importance of a complete plan. Arbor day planting though much has been done for years, has left extremely small permanent results on rural school grounds, largely because there has been no definite or complete plan. Planting has therefore been haphazard and neglected. Frequent change of teachers has increased the difficulty of hit and miss planting.

Every teacher in a rural school should in good time before Arbor Day (January is none too soon) consult with some member of the school board who is most interested, about securing a complete plan of planting for the grounds. This plan may be worked out by the teacher and the older pupils (see rules for planting), but it will be much better to secure some help. For such help write to the State Department of Education or to the Secretary of the State Horticultural Society, both of Madison, Wisconsin. In writing send a plan of the school grounds drawn to a scale showing form of grounds and position of buildings, walks, drives, trees and shrubs already growing. When a complete plan has been secured showing kinds of shrubs and trees and where they should be planted, it should be kept by the *school board* and each year a little may be done in working out this plan. However little is done, that little will work toward the final completion of a good piece of work. Every school ground may thus be made beautiful and attractive by a very little work each year. If a plan is kept at school a copy should be in the hands of the board. Arbor and Bird Day Annual, 1915, p. 40. Suggestions for Improvement of School Grounds.

b. Size of grounds. In securing grounds for new schools, provision should be made for a play ground, and for an attractive yard about the building. Nothing less than an acre should be planned. Three to five acres are desirable. Wherever possible, provision should

be made for a piece of ground which may be used as an agricultural plot.

c. Care through the summer. The care of trees and shrubs after planting is quite as important as proper planting in the first place. Care is needed especially during the hot, dry summer months to see that trees do not dry out and die. Trees and shrubs are even more apt to die the second than the first summer. Teachers should make definite arrangements for some one especially interested to give this summer care. A little thought and small expense may finally result in beautiful school grounds.

d. Kinds of trees and shrubs. Make use as far as possible of native trees and shrubs and avoid those not adapted to the region. This saves expense and they grow better. Slower growing trees such as maple, elm, bass wood, ash, birch, horse chestnut, walnut, and evergreens are more desirable than such rapid growing trees as box elder, willow and poplar. A few of these latter may be planted but with the idea of cutting them out when better trees are grown. Aim to have a good variety. Do not plant many of the same kind except in bunches. Give special thought to planting trees and shrubs which will furnish food for birds, e. g. mulberry, wild cherry, elderberry, June berry, dogwood, viburnum, (high bush cranberry especially good), mountain ash, hawthorn, spice bush, buckthorn.

e. Rules for planting. 1. Plant about the borders of the lawn space leaving spacious grass plats inside. 2. Mass or bunch the planting and avoid straight lines for either trees or shrubs. 3. Leave gaps for vistas between the bunches of shrubbery or trees. 4. Mass shrubbery in the angles and about the corners of the building, but do not completely cover the view of the building. 5. Mass shrubbery along in front of trees. 6. Plant flowers along the front border of shrubbery. 7. Cover unsightly places by vines or high shrubbery. 8. Be sure that provision is made for the care of trees and shrubs during vacation. 9. In planting preserve and spread the small roots and cover with mellow soil.

f. References.

Course of study in Elementary Agriculture for the Wisconsin Rural Schools, p. 104.
Arbor and Bird Day manual, 1909, p. 41; 1903; 1908; 1915, p. 40.
School beautiful, Issued by State Dept. of Education, 1907, p. 75.
Farmers' bulletins No. 134. Tree planting on rural school grounds; No. 185 Beautifying home grounds.
Wisconsin Exp. Sta. bulletins No. 105. Improvement of home grounds; No. 108 Trees and shrubs for shade and ornament.

5. Tree study. *Should be taken up as buds begin to burst and blossoms appear, again after leaves are fully out and fruits have formed. Several excursions and a number of tests in naming and describing trees. Drawing exercises for sketching buds, blossoms, leaves and fruits.*

a. For suggestions see outlines for fall tree study period
b. Extend acquaintance as much as possible period

c. Give special lessons on buds, blossoms, leaves, and fruits.

(1) Buds. (When they have started to swell or if brought in and put in water they may be studied earlier.) Have specimens of poplar, horse chestnut or lilac for observation. Others will do instead. When did the buds start to grow? What is inside? Is the bud alive? How did nature protect the young bud through the winter? (Scales and sometimes a gluey cement.) What will they develop into as they grow? (Shoots and blossoms.) How arranged on the stem? (Alternate, opposite.) How does this arrangement compare with the arrangement of branches and why? Which come out first, flower buds or shoot buds, what advantage? Where did last year's buds start on the branch you have? (See ring of scars where scales fell off.)

(2) Blossoms. Many people never notice that trees bloom and have beautiful blossoms. Such blossoms as the elm, maple, ash, box elder, poplar, willow, birch, hazel nut, black alder, and oak produce only the essential male and female parts (stamens and pistils) having no leaf like or colored parts (sepals and petals) such as are common in other flowers. Show how the male flowers (staminate) produce pollen and the female (pistillate) produce the young seed.

Explain about importance of pollination and fertilization. In the list just mentioned pollination is brought about by the wind. The flowers are often in compact spike like clusters called catkins, which may be either male or female. Collect and study flowers of trees. Emphasize beauty and how they produce the seed.

(3) Fruits and seeds. Observe fully developed fruits and seeds of those that develop in spring, and study means of distribution and development of young trees from seed.

(4) Leaves. After leaves come out study their work (breathing organs, starch factories). Explain how this work is carried on (breathing pores, starch made out of carbondioxide and water in the leaf cells). Show how the food is transferred to other parts of the plant along the veins and stem. Sketch buds, blossoms, leaves and seeds as far as there is time.

d. Tests in naming trees. Use trees out-of-doors, collected blossoms, seeds and leaves, pictures. See plan for fall study. Older pupils should add *fifteen or twenty* kinds to the fall list and should come to know most of the trees of the region.

e. Study of kinds of woods. An excellent topic for geography.

f. References.

See under fall tree study
See any botany on pollination and fertilization
Township library list, p. 42

6. Flower study. *Several field trips to gather and identify flowers. Observations and reports on the spring flowers. One or two special*

lessons on the flower and its work. Look over plan for fall flower study.

a. Acquaintance.

(1) List. Children should learn to know as many as possible of the following: buttercup, hepatica, spring beauty, blood root, Dutchman's breeches, marsh marygold, wood anemone, violet (white, yellow, common blue, bird's foot), pasque flower, trailing arbutus, Jack-in-the-pulpit, skunk's cabbage, (very early), dog-tooth-violet, trillium, Solomon's seal, false Solomon's seal, iris, wild ginger, meadow rue, May apple, shooting star, phlox, painted cup, lady's slipper, bellwort, spring cress, blue bell, valerian.

(2) Flower calendar. Keep names and dates as flowers are reported or brought in.

b. Tests. Make sure that pupils learn to know at least *twenty* spring flowers the first year. Increase the number each year.

c. Lesson on the work of flowers.

(1) Beauty. Bring out how much pleasure they give us and caution against wasteful picking and digging up. Keep bouquets in the schoolroom and develop appreciation.

(2) Production of the seed. Young seeds produced in the pistil, pollen produced in the stamens. Pollination and fertilization must take place before the young seeds can develop. Insects are necessary for the pollination of most of our showy flowers. Wind is the agent for pollination for many trees and some other plants. How does the flower attract insects? (Colored leaf like parts (petals), odor, nectar.) Show how the insect is directed to the nectar (colored lines, colored centre). Emphasize how wonderfully the insects help the flowers and how the flowers help the insects. Use easy poems and stories. Especially read Longfellow—"The Flowers."

d. References

Pictures in Colors. A. W. Mumford, publisher; National Geographical Magazine, May, 1915; Perry Picture Co., Malden, Mass.
Coulter–Patterson, p. 93, 191; Comstock, p. 496–530; (T) Hodge (T) Chap. VI.
Dana. How to know the wild flowers (T)
Mathews. Field book of American wild flowers (T)
Cooke. Nature myths (T)
Lovejoy. Poetry of the seasons (T); Nature in verse (T)
Township library list, p. 42–44

7. Frogs and toads. *Trip to some pond to study egg laying habits and collect eggs. Daily observations in the schoolroom of developing eggs and tadpoles. Observations made by pupils in their gardens or about home.*

a. Materials. Dishes for collecting and containing eggs and tadpoles. Mason jars or small pails are good for collecting. A tadpole aquarium may be fixed as follows: Secure an aquarium jar or a granite pan will do. Bring from the pond where eggs are found, some of the water, mud, slimy stones and water plants. Fix these in the

pan as nearly as possible as they were found in the pond. Plants which grew in the mud should be reset in the mud. After the water has cleared the aquarium is ready for use. Once a week more water, mud and several slimy stones should be added from the pond to replenish water and the food supply which consists of minute plants and perhaps animal material found in the slime and mud.

Frog's eggs are layed in globular masses of jelly. Toads lay their eggs in jelly-like strings. Avoid collecting a large amount of material. Tadpoles will be much more likely to die if you have a great number. After the eggs hatch do not keep over a dozen tadpoles for further study. Get the children to put all the rest carefully back in the pond. If no eggs are found boys can nearly always find tadpoles.

After egg laying is over and toads have left the ponds, they may be collected by pupils who have gardens and made comfortable in the gardens. Small holes four or five inches deep about the edge of the garden and partly covered by boards make good retreats for the toads in the day time. These holes should be kept damp.

Egg laying occurs between late March and early May depending on season and locality.

b. Lesson outline

(1) Review the fall work on toad study. Where did they spend the winter? Why do they go to the ponds in spring? How do frogs and toads croak? (Forcing air out of special sacs.) One of the pleasing sounds of spring associated with the breeding season.

(2) Life history

(a) Eggs where found, how attached, date, use of jelly (protection), number, size, color, why so many are layed, time of incubation, what the mother does for the young.

(b) Tadpoles, also called polliwogs: how they get out of the jelly, movement, breathing, fringe like gills where located, food, how secured, growth, appearance of legs, disappearance of tail. When tail has entirely disappeared and the adult stage is reached a thin board or other float should be provided so they can crawl out of the water. They now breath air by means of lungs as we do. The little frogs or toads should be set free in some garden or other safe place.

(c) The adult: review habits and sum up entire life history.

(3) Usefulness, protection, enemies. A few adult toads may be kept in a box and fed for a short time as in the fall. Be very careful to release them before school closes. See fall outline.

c. References

Hodge, Chap. XVI and XVII (T); Comstock p. 181–197. (T). **Smith.** The home aquarium and how to care for it (T). **Wood.** Animals, their relation and use to man (T). **Township library list,** p. 44–52. **See fall references** under "Toads"

AGRICULTURE

I. GENERAL SUGGESTIONS

1. Place on the program. As previously indicated three periods a week during spring and fall and one period a week during the winter should be devoted to the agriculture. The lessons should be given especially to the seventh and eighth grades though other pupils may sometimes take part in the practical work and may also be interested in some class discussions.

2. Viewpoint. The most important aim of the work should be to develop in the boys and girls an intelligent interest in the life and problems of the farm. Much of the same interest should be aroused in the community. The pupils should further gain some skill in applying the best knowledge to actual farm practice in such a way as to obtain a worth while result. This to them valuable result, will furnish the most powerful motive for the work. This means not only that classes should be organized for systematic instruction, but also that much work should be connected directly with the seasonal activities of the farms and homes of the community. Many of the class periods should therefore be utilized for such work as selecting seed corn in the field, studying a fine herd of cattle, or collecting weed specimens rather than for the reciting of a lesson assigned in a textbook. Other periods should be used for observing and studying material collected, for making some test or for carrying out some experiment.

3. Textbook. A good textbook in elementary agriculture should be in the hands of every pupil for the assignment of definite lessons. These assignments should be used to supply needed information and to help round up each topic.

4. Practical projects. As many pupils as possible should be led to carry out practical projects at home each year. In the winter these may be in the line of cow testing, poultry work or some other animal project. During the crop growing season they should consist in raising products such as corn, potatoes or garden crops on small pieces of land. Any "Boy's and Girl's Club Work" organized by the county superintendent should be made a part of this work

and teachers should confer early with the county superintendent regarding his plans along this line. Suitable contests should be arranged.

5. Exhibit. An annual exhibit of products raised by the pupils should be planned and made one of the most important events of the year. See "Garden Work".

6. Farm literature. The work should acquaint the pupils and to a large extent also the community with the best farm literature such as papers, bulletins, the agricultural yearbook, etc., and also develop an intelligent understanding of such literature. Every country school ought to receive regularly two or more good agricultural papers. See list at the end of these outlines.

7. Community help. For the purpose of getting the best community help and at the same time arousing the best community interest, it is recommended that each teacher select after a careful survey of the community two or three farmers who are best fitted to give advice and help in organizing the practical side of the work. These men should be consulted and advised with often. These and any others who have been especially successful along any line of farming should be invited to help by giving special demonstrations at their homes or by talks at school.

8. Plans of topics. The following plan of topics indicates what may be regarded as a minimum list and suggests also a supplementary list which may be used if found advisable. The minimum list is intended to furnish two years work for seventh and eighth grades. In most country schools both grades should be combined into one class. The county superintendent should indicate to his teachers each year what topics should be treated in each county. Since conditions as to successful crops differ so widely in different parts of the state it is not thought advisable to attempt to make this division for the whole state. It should be the aim to round up all the topics in the two years so far as local farm practice will allow.

II. COURSE OF STUDY

Minimum List

1. Fall

a. Corn

(1) Selection and curing
(2) Making a corn tree
(3) Varieties
(4) Judging and exhibiting

b. Weeds

(1) Acquaintance
(2) Making of collection
(3) Study of plants
(4) Study of seeds
(5) Methods of extermination
(6) Weed laws

c. Potatoes
- (1) Standard varieties
- (2) Selection and care of seed
- (3) Judging and exhibiting
- (4) Storing and marketing
- (5) Potato diseases

d. Legumes
- (1) Clover
- (2) Alfalfa
- (3) Sweet clover
- (4) Characteristics
- (5) Root tubercles

e. Exhibits
- (1) Preparation of products
- (2) Contests and prizes
- (3) Arranging program

f. Library lessons. Teach the lessons assigned to the Agriculture Class on page 19, Lessons on the Use of the School Library.

2. Winter

a. Poultry
- (1) Breeds and characteristics
- (2) Judging
- (3) Poultry house construction
- (4) Egg laying
- (5) Feeding and sanitation

b. Dairying
- (1) Breeds and characteristics
- (2) Judging
- (3) Milk testing
- (4) Care of milk and cream
- (5) Feeds and feeding
- (6) Balanced rations

3. Spring

a. Corn
- (1) Seed testing
- (2) Preparation of soil
- (3) Planting
- (4) Cultivation
- (5) Place in rotation

b. Potatoes
- (1) Cutting
- (2) Preparation of soil
- (3) Treatment of scab
- (4) Planting
- (5) Cultivation

c. Birds
- (1) Acquaintance
- (2) Economic value
- (3) Aesthetic value
- (4) Protection
- (5) Classification according to food habits

d. Garden Work
- (1) Planning
- (2) Planting
- (3) Summer care

e. Alfalfa
- (1) Liming
- (2) Inoculation
- (3) Enriching soil
- (4) Time to plant
- (5) Care

f. Soil Study
- (1) Kinds
- (2) Origin and composition
- (3) Conservation of moisture
- (4) Tillage and drainage
- (5) Fertilizers
- (6) Crop rotation

Supplementary List

1. Fall

a. Insects
- (1) Acquaintance
- (2) Life history
- (3) Economic importance
- (4) Control
- (5) Beneficial insects

b. Plant Diseases
- (1) Rust and smut
- (2) Pear blight
- (3) Potato blight

c. Fruit Growing
- (1) Varieties
- (2) Harvesting and marketing

(3) Spraying and pruning
(4) Propagating

d. Silo
(1) Filling
(2) Value for winter feeding

2. Winter

a. Horses and Hogs
(1) Breeds and characteristics
(2) Judging
(3) Feeding
(4) Value of pure bred sire

b. Beef Cattle
(1) Breeds and characteristics
(2) Judging
(3) Feeding and rations
(4) Marketing

3. Spring

a. Fruit Growing
(1) Pruning
(2) Spraying
(3) Planting

b. Silo
(1) Survey
(2) Silage crops
(3) Construction
(4) Advantages

c. Roads
(1) Importance
(2) Road building in Wisconsin
(3) Construction in locality
(4) The road drag
(5) Relation to schools

The topics have been arranged under the three seasons fall, winter, and spring in order to assist teachers in the seasonal treatment of topics. This seasonal plan is fundamental. It is useless to try to teach weeds in the winter when no weed material is at hand or spraying in the fall when no spraying is being done. While this is true it is not intended to make this seasonal line between topics at all absolute. Topics may sometimes be run over from winter to spring or from fall to winter even when it is not so indicated on the list.

A recent bulletin issued by this department presents a "Course of Study in Elementary Agriculture for the Wisconsin Rural Schools", with topics arranged by months. This bulletin should be on file in every country school and since it presents very full outlines of work only a few brief suggestions will be given here regarding each topic. The bulletin will be referred to hereafter under the title "Course of Study."

III. TREATMENT OF TOPICS

1. Minimum list

a. Corn. This topic should be taken up at the time the farmers are selecting or should be selecting their seed corn. See Course of Study. pp. 12, 20, 41, 47, 55, 65.

Every pupil should make a corn dryer following the directions given on page 303.

At least one trip should be taken by teacher and pupils to some good field of corn where permission can be obtained to select seed. The cooperation of the farmer who owns the field should be se-

cured. He should be invited to be present if possible to give teacher and pupils helpful information. At the same time his interest may be aroused in something new. The corn should be put on the dryers and placed in a dry place for curing.

Judging and scoring of corn should be carried on in the school at the regular agriculture period. This should be made a concrete exercise in which pupils are describing and comparing specimens actually in hand rather than talking about things in general or reciting from a book.

The testing of seed corn should be made an important part of the work in the spring. This should be begun five or six weeks before the corn planting season arrives. The work should be made a class exercise at school and the corn from as many of the farms of the neighborhood as possible should be tested. At the same time pupils should be encouraged to do some testing at home. The box test described in both the Wisconsin and the U. S. bulletins should be made use of at first. The rag doll test should also be tried. Secure Poster Bulletin 7 issued by the Agricultural Experiment Station, University of Wisconsin, Madison. This shows and describes both the box and the rag doll test. Write to the I. H. C. Co. Harvester Building, Chicago, for circular on the rag doll test, and also other corn circulars. The rag doll circular can also be obtained from the Crop Improvement Committee, Bert Ball, Secretary, Auditorium Building, Chicago. See also general list of references for circulars and bulletins on corn.

Make the corn an important feature of the exhibit. The corn acre project is a fine one for the largest boys.

b. Weeds. Course of Study. pp. 16, 28, 62.

A large amount of attention should be given to getting acquainted with the weeds of the region and with their seeds.

Children enjoy collecting and mounting specimens of both the plant and the seeds. Specimens of the plants may be mounted on cardboard or manila charts or in special mounts under glass. Seeds may be placed in small vials and fastened on charts. See Farmers' Bulletin No. 586.

Each weed plant has one or more special characteristics which distinguish it from others and give it an advantage. For instance, the burdock and the yellow dock have deep and fleshy tap roots which have the habit of storing up food during the whole of the first year's growth, and then of using this better supply of moisture and this abundant supply of food for rapid growth and production of seed during the second year. Pusley has thick, juicy leaves which dry out very slowly when the plant is dug up giving the plant time to grow new roots before it wilts and dies. Many plants like the dandelion produce great numbers of flowers in compact heads and have special contrivances for seed distribution by the wind. Emphasize these special advantages.

Many plants which may be classed as weeds have been studied in Nature Study. These should now be studied more from the standpoint of economic importance and means of eradication.

The importance of helping to enforce the weed laws should be emphasized. According to Wisconsin laws the following weeds must be cut before going to seed: Canada thistle, burdock, white or oxeye daisy, snap dragon or toad flax, cockle bur, sow thistle, sour dock or yellow dock, wild mustard, wild parsnip, Russian thistle, wild barley, quack grass.

Farm seeds offered for sale must not contain more than 1 in 1000 of the following seeds: Canada thistle, quack grass, clover dodder, field dodder, alfalfa dodder, wild mustard, Indian mustard, wild oats, corn cockle, oxeye daisy, snap dragon, sow thistle, narrow leaved plantain or buck thorn. Teach pupils to know as many as possible of these plants and seeds.

Secure and study Poster Bulletin 5, on Weeds to be Exterminated, issued by the Agricultural Experiment Station, Madison.

c. Potatoes. Course of Study. pp. 73, 74, 111.

This should be a leading topic in potato growing regions. It should usually be taken up in late September or early October.

Visit a field at digging time to study and select seed potatoes.

In judging, emphasize importance of standard sizes and uniformity. Extra large or overgrown potatoes receive little consideration by competent judges. Grading of potatoes is now receiving much attention.

Bring out the importance of raising a few standard types that have proven well adapted to Wisconsin conditions and that have recognized market value.

Visit any potato warehouse or starch factory in the neighborhood.

Get some pupil to look up "Potato Seed Certification in Wisconsin." Get bulletin 252. Agricultural Experiment Station, University of Wisconsin, Madison, on this topic and for further information write the Horticultural Department, University of Wisconsin or get information from certified seed potato growers in the neighborhood.

Secure and study Poster Bulletins 1 and 2, Agricultural Experiment Station, Madison, on Potato Diseases and Standard Potato Seed.

Potato raising on a given area is one of the best projects for the boys.

d. Legumes. Course of Study, pp. 77, 87, 115, 118.

Be sure that the pupils learn to know the common clovers, alfalfa and sweet clover so that they can distinguish them readily by seeing either the plant or the seed.

Let pupils prepare charts showing samples of the kinds that grow in the neighborhood. On each chart should be fastened specimens of plant, seeds, blossoms and root showing tubercles for each kind.

Let pupils make a survey to find out how many acres of alfalfa are grown in the district. If little is raised find out why?

Get one or more of the older boys to take the starting of a small field of alfalfa as a project. Seed can generally be obtained best through the county superintendent.

Bring out the great value of the legumes in planning a rotation. Work out a number of rotations.

Have all the class study carefully the conditions of success in growing alfalfa and the special advantages of this plant as a farm crop.

Secure and study especially as many of the following as possible in addition to the text: Circular No. 35, Alfalfa as a Wisconsin Forage Plant, State Agricultural College, Madison; Farmers' Bulletin No. 339 Alfalfa; No. 485 Sweet Clover; I. H. C. Co., Harvester Building, Chicago.

(1) Studies in Alfalfa. (2) Sweet Clover.

e. Exhibits. Course of Study, 11, 75. See also "Garden Work" under nature study.

Make the exhibit the leading school event of the year. Nothing can do more to interest the pupils and the whole community not only in the agriculture but in all of the work of the school. Field projects by the agriculture boys, garden work and canning projects by the girls and garden work by the younger children should all be rounded up as a part of this event. Results of manual training and domestic science furnish excellent material. Any other attractive work of the school may be exhibited.

Soon after school opens in September, find out how many pupils have had gardens or projects. Compare with the plans made in the spring. If you are a new teacher, look up the record left by your predecessor. If none is to be found ask pupils and school board about what plans were made,—size of plots, what was planted, and what products are available for the exhibit. Be sure to leave a complete record of your plans for your own use another year or for your successor. Ask your county superintendent about any Boys' and Girls' Club work that was started in the spring. Encourage pupils to give the best of care to their products so as to have as good an exhibit as possible. Talk over plans for prizes and stimulate rivalry.

The time for the "Harvest Festival" should be set early since considerable work will be needed in preparing tables, exhibit boxes, etc., and in planning and advertising the event. See manual training projects in this manual. Try to secure the cooperation of parents in your plans. If possible, present the matter at some public gathering at the school or elsewhere.

Make the keeping of a careful account showing cost, income, and profit an important part of the work. Ask for a written account of the whole project as a language exercise. Let pupils write invitations

in the language class inviting patrons and the county superintendent. Use problems based on the garden and exhibit work in the arithmetic class. What are the plants or seeds worth per bunch, head, quart, peck or bushel? Estimate how much a half acre or an acre would yield at the same rate. What would be the profit after deducting the cost of labor in seeding, cultivating and harvesting? If the crop is used by the parent, a fair compensation should always be allowed the child. *It is also important that the work should be done by the child and not the parent.*

Arrange an attractive program. Appoint committees to arrange decorations. Select competent persons in the community to act as judges. Ask the cooperation of patrons especially interested in arranging prizes. An exhibition of products raised by the farmers may be made a part of this festival, but the children's exhibit should be kept in a separate class. Probably a separate class should be made for the lower grades. If any of the younger children have raised flowers, these should be made a part of the exhibit and some may be made use of for decoration. Don't decide not to plan anything because projects to not seem at first to have succeeded very well. It is surprising what a showing can be made when little seems in sight at first. Start this year. It will be an immense help in arousing interest for another year. Look up and read "The Corn Lady" by Jessie Field. Township Library list, p. 23.

f. Poultry. Course of Study, pp. 21, 32, 54, 57, 64, 68, 85, 88, 90, 92, 97, 107, 117.

In connection with the study of breeds and characteristics a good collection of pictures should be obtained. If possible a poultry journal should be taken. At any rate find out how many have or would be willing to take poultry papers at home. Let each pupil prepare a chart showing pictures of fine fowls of a particular breed. Use these as the basis of class work. Pictures may be cut from papers, advertising circulars, etc.

Keep a bulletin board on which may be shown special items of interest and pictures of birds which have made unusual records.

Take the class to visit some farm where fine poultry is kept. Get the owner to give the class a demonstration. Give the class some practice in judging good birds.

Get as many pupils as you can to take charge of the poultry flock at home and keep careful records of feeding, egg production etc. Work out with the class rations for these flocks. Sometimes it may be possible for a boy or girl to start a special poultry project at home. This is just as interesting and valuable to girls as boys. If any pupils are ready to build a poultry house at home make this the basis of the study of poultry house construction.

Let pupils make a list of the kinds of chickens kept in the neighborhood and from this data develop the advantages of keeping a single good breed, giving uniformity of size and color of eggs and commanding often a better price.

Emphasize the importance of careful selection of the hens to be used for breeding purposes. The average farm hen is said to produce about 80 eggs per year, but by careful selection and feeding this average has been raised to 200 eggs in a flock of 360 hens.

Bring out the advantages of feeding so as to get hens to lay in the winter when the prices of eggs are high. Emphasize the importance of cleanliness and good ventilation in the care of hens. Look up and study bulletins on poultry house construction.

The poultry project is excellent for either boys or girls. See Course of Study.

g. Dairying. Course of Study, pp. 25-61.

Wisconsin has been the leading dairy state for some time. The industry is steadily growing. This topic should therefore be especially emphasized. Every country school should have some dairy paper. Find out what dairy papers are taken at the homes of the pupils.

Have pupils use picture material for making charts to show types and breeds as suggested under poultry. Keep before the pupils on a bulletin board the best dairy information and pictures of famous animals found in papers or elsewhere. See farm papers and circulars for pictures.

Send to the Wisconsin Department of Agriculture, Madison, for a copy of the Wisconsin Breeder's Directory in which the addresses of all the National Breeders' Associations may be found. By letting pupils write to these associations, fine pictures may often be obtained.

Visit with the class one or more of the best herds of the neighborhood and get the owner to give the class a talk on the points of a good dairy cow. By use of a diagram have pupils learn the names of the parts of a dairy cow. Give some practice in judging by a score card.

Every district should own a Babcock tester if possible. A six or eight bottle covered tester should be obtained. In some cases several are owned by the county and sent around to the schools by the county superintendent. As many samples of milk from the pupils' homes should be tested as possible. The work may be extented to other farms.

Get pupils to weigh the milk at home and keep a milk sheet showing record of five or more cows for a week or longer. Milk sheets may be made or can be obtained from almost any dealer in creamery supplies. The Wisconsin Live Stock Association, Madison, has sometimes furnished them. The Creamery Package Company at Fort Atkinson and the Creamery Package Company of Minneapolis will give to districts from 25 to 30 per cent discount on Babcock testers and other supplies. This will bring the price of the tester down to about $7.00 or $7.50, an amount which every county school ought to afford.

Emphasize the importance of cleanliness in the care of dairy products.

Have pupils determine the ration being fed to cows at home weighing the feed as accurately as possible. From tables showing composition of various feeds calculate the nutritive ratio. Have pupils look up rations from standard authorities and compare. Let them balance a ration with the feeds used at home.

Emphasize the importance of breeding up the dairy herd by careful selection on the basis of the Babcock test and the milk scales. The average dairy cow in Wisconsin produces about 170 pounds of butter fat annually and yet many herds with careful selection and good handling have been brought up to an average of 400-500 pounds. It is estimated that from ¼ to ⅓ of all the cows being milked in Wisconsin are "boarders" that is, do not pay for their feed. Bring out the importance of finding out what each cow is earning and of getting rid of the "boarder". Emphasize the value of the pure bred sire.

Bring out the importance of dairying in relation to soil fertility. Secure and study Poster Bulletins 4 and 6, Agricultural Experiment Station, Madison. Secure from the I. H. C. Co., Harvester Building, Chicago, the bulletin on "The Golden Stream."

Calf raising makes an excellent project for boys. Get boys to induce their fathers to give them calves. See Course of Study, p. 61.

h. Birds. Course of Study, p. 65.

Consult the "Bird Study" topics in the Nature Study Outlines. Extend this work giving more attention to the economic side and emphasizing the great benefit of the birds in destroying insects, eating seeds and in killing wild mice and other small animals that injure crops. Show how even with the help of birds the damage caused by insects each year in the United States is $800,000,000 or more. Every one knows that birds feed on insects, but few people realize to what an extent we are dependent on the birds for holding in check the millions of insects that attack our useful plants. Both poet and scientist have voiced this truth. A scientist recently estimated that if all birds were destroyed the land would become uninhabitable for human beings within three years. With prophetic vision Longfellow stated the same truth many years ago in "Birds of Killingworth."

Have pupils collect facts showing how much good certain birds do. For instance, 5500 eggs of plant lice were in the stomach of a single chickadee. Four other stomachs of the same species contained 600 eggs and 105 female moths of the canker worm a very destructive insect to trees. In the nesting box of a pair of purple martins was found over a quart of the wing covers of the little cucumber beetle. Tree sparrows in Iowa eat 875 tons of weed seed annually. The state of Pennsylvania is estimated to have sustained a loss of nearly four million dollars in a year and a half

by placing a bounty on hawks and owls resulting in the killing of over a hundred thousand of these birds.

Emphasize any available information that can be found on enemies of birds and causes of their destruction.

Let pupils look up and make special reports on particular birds or groups of birds in relation to their usefulness. Look up especially the quail or Bob White which is one of the most useful of birds. See Farmers' Bulletins under Fall Topic 1, Bird Study. See Agricultural Yearbook 1903 on "Bob White".

A few birds, though a surprisingly small number, are harmful. Make a list of these. Have a special report on the English Sparrow. Farmers' Bulletin No. 493.

Arrange birds in groups according to color, migration and food habits making lists under each.

(1) Color: mainly black, black and white, gray and slate colored, brown or brownish, conspicuously green or yellow.

(2) Migration: permanent residents, summer residents, winter residents, transients.

(3) Food habits

(a) Insect eating, seed eating, eating small animals.

(b) Sky sweepers, tree gleaners, bark inspectors, ground gleaners, wise watchers, weed warriors.

See Weed and Dearborn. Birds and their Relation to Man.
Florence Merriam Bailey. Birds of Village and Field.
U. S. Yearbook on Agriculture, 1898, 1900, 1906.

i. Garden work. Course of Study, pp. 18, 49, 53, 56, 60, 63, 66, 68, 75, 101, 112, 114.

In the fall this work should include the exhibit and the gathering and caring for seeds to be used the following spring. In the spring gardens should be planned, planted and cared for and lessons should be given on seeds and preparation of soil. The garden project is especially valuable for the younger pupils and for the girls of the agriculture class. It may be engaged in also by any of the agriculture boys who are not too busy with other projects. Raising and canning tomatoes is especially good for girls. Although the school garden if it could be provided for, would be exceedingly desirable, it is probable that in most cases the home gardens are best adapted to the conditions of Wisconsin rural schools. A little may be done however with flowers and plants at school.

j. Home gardens. Plans should be started as early as some time in March. A sunny and well drained plot should be selected. For younger pupils this should be about 6 feet by 16 feet; for older ones about 15 by 30 feet. Sizes may be modified to suit special needs.

Sweet peas, nasturtiums, pansies, poppies, verbenas, petunias, asters, and bachelor's buttons are desirable flowers. Potatoes,

carrots, beets, cabbages, onions, pumpkins, beans and tomatoes are good for vegetables. Select two or three flowers and three or four vegetables. It is best not to try too many. Pansies, verbenas, petunias, asters, tomatoes and cabbages should be planted early in a window with good light or in a hotbed till ready to be transplanted outside. One or two transplantings inside are a great advantage.

Use seeds saved in the fall. Get pupils to send for seed catalogs, (see farm papers) and have them order seeds if parents are willing. Write letters in composition work.

Make a careful record of all plans showing names of pupils, size of plots and what is to be raised by each. Put this record in a special blank book labeled "Garden Projects." *Be sure to leave this record for your successor if you do not return.* Direct pupils to keep a careful account of all expenses and income so that net profits may be shown in the fall. If parents use products a fair price should be allowed. Explain plan of fall exhibit and prizes, arrange contests, and stimulate rivalry in raising the best products.

Give special lessons on preparation of the soil and planting of seeds. Bring out the advantages of good tillage, fall plowing, drainage, fertilizers, etc. See that work is done at the right time. Have pupils draw a plan showing arrangement of rows, distances apart, etc. The soil should be gently packed over most seeds to bring moisture in contact with them. Plants should be hoed often and watered if needed. Caution the pupils against enemies of the garden such as chickens, weeds, cut worms, grubs and other insects. Foster friends such as birds, toads, earthworms.

Encourage pupils the last thing before school closes to give gardens good care during the summer so as to make as good an exhibit as possible. A note sent home to parents may help.

Children may write these notes for language work.

(2) Garden work at school. Raise plants in boxes for home gardens. See outline above. Boxes should be about 4 inches deep. Plant flowers about the building, on the borders of the yard or along the edge of shrubbery. Do not as a rule put beds in the center of the yard. Set out geraniums or other plants previously kept in the schoolhouse. Get some pupil or other person living near the school to care for the plants during the summer. Window boxes may be made very attractive. Connect with Arbor Day plans. A tulip bed set out before ground freezes in the fall is most attractive in the spring.

k. Soil. Course of Study, pp. 24, 37, 59, 74, 103, 110.

Do not go too much into the technical study of soil.

Samples of the different kinds found in the neighborhood should be collected and studied with material before the class. It should be shown that limestone produced a clay soil, sandstone a sandy

soil, and granite rocks clay with some sand. Show advantages of good tillage.

Simple experiments should be carried out to show effect of water on different soils, capillarity, drainage, and conservation of moisture. Such experiments are found in textbooks.

Emphasize the importance of animal husbandry which keeps the plant foods on the farm in the manure. Show that the greatest asset of the country is the soil and that it should therefore be most carefully conserved. Teach the value of liming the soil.

Bring out the value of covered manure pits, cement gutters back of the animals, the avoidance of piling manure under eaves and of hauling manure directly on to the land. Make a list of crops especially adapted for cover crops and green manuring. Work out three, four and five year rotations showing advantages of each and adaptations to different kinds of soil. Show how dairying keeps the largest per cent of the soil fertility on the farm. Secure and hang up for study Poster Bulletin 4, Agricultural Experiment Station, Madison.

2. Supplementary topics

a. Fruit growing. Course of Study, pp. 23, 33, 52, 62.

This topic should be given special attention in fruit growing regions such as Crawford, Richland, Door and Bayfield counties.

Have children bring apples to school for the study of varieties. Test recognition of varieties. Get each pupil to make a list of kinds and varieties of fruit raised at home. Group varieties of apples under the headings: early apples, fall apples, winter apples. For orchard survey see Course of Study, p. 23. If possible take the class to a packing house to see how apples are packed and marketed.

Find out how much spraying is done at homes of pupils.

Get some pupil to make some grafting wax and have pupils construct models to show different forms of grafting.

Study insects and diseases. The codling moth and curculio apple pest are said to cause a damage in this country of $12,000,000 a year, to say nothing of a cost of perhaps $8,000,000 a year for spraying to keep them from destroying more. The San Jose scale is one of the worst scourges to fruit growers in other states. It should be kept out of Wisconsin.

b. The silo. Course of Study, pp. 43, 51, 72.

Find out how many silos there are in the district and in the county. See Bulletin No. 4, Wisconsin Department of Agriculture, Madison. Compare the prosperity of a region with the number of silos. What kinds are most popular? Study kinds with advantages and cost of each.

Study crops best for silage, how the silo is filled, why tramping is important, why the outside should be tramped more than the center, how many inches should be fed off each day and why, relation of diameter to number of cows, advantage of setting the bot-

tom of the silo below ground, why not all below ground, why corn is the main silage crop, how many tons of corn silage to the acre, when the corn should be cut for filling the silo, kinds of corn best for silage, effect of frost on silage.

Let pupils calculate capacity of silos for arithmetic work. Area $= \pi R$. Capacity or volume=area times height.

Sum up why farmers should build silos.

Let pupils send for circulars or catalogs of any silo companies. See farm papers. Many valuable facts are often found in these catalogs.

c. **Insects.** Course of Study, pp. 18, 35, 99.

Look up also "Supplementary Topics" under fall topic 2, Nature Study Outlines. Extend this work.

IV. TESTS AND EXAMINATIONS

The following suggestions indicate the kind of knowledge and ability pupils should be able to show when they have finished the course in agriculture.

1. They should know the standard varieties of corn raised in the locality, and as far as possible in the whole state, with advantages of each for various conditions of soil and climate. This knowledge should be tested by the identification and description of actual specimens rather than by merely talking or writing about them. Pupils should further be able to demonstrate from specimens the points of a good ear of seed corn or to score a ten ear sample. The importance of ear testing of seed corn should be well understood and pupils should be capable of either describing or demonstrating one or more of the methods in common use.

2. Pupils should have the ability to name correctly at least fifty common weeds of the locality, give some important characteristics of each, and should be able to identify samples of the seeds of each. Collected weed specimens should be on hand for this test. The complete list of weeds included in the Wisconsin weed law should be known and there should be ability to identify any of these that grow in the locality.

3. There should be the ability to recognize and give the special advantages of each of the standard varieties of potatoes grown in Wisconsin and especially in the locality. Pupils should be able to select a good exhibit sample of ten potatoes or a half bushel, showing good judgment as to size, shape, uniformity, freedom from disease, etc. Knowledge should cover the advantages of hill selection, the common potato diseases of the locality and how these should be treated.

4. There should be a knowledge of the characteristics of the leguminous plants as to roots, stems, leaves, flowers, fruits, and of

their importance in relation to soil fertility and crop rotation. Pupils should be able to recognize the various leguminous plants.

5. Pupils should know the standard varieties of chickens with characteristics of each. They should also have a knowledge of poultry foods and be able to figure a ration. Let pupils draw a simple plan for a poultry house and explain the essentials in poultry house construction.

6. Let pupils give a Babcock milk test demonstration and explain the value of using milk scales. Ask them to figure a balanced ration with a certain list of food materials such as corn silage, clover hay, bran, ground oats, gluten meal. Allow them to consult authorities to get necessary facts about composition of foods, nutritive ratios, etc.

7. Test the pupils ability to name the parts of a dairy cow from a diagram. Let them demonstrate the points of a good dairy cow from pictures or, if it can be arranged, from an actual herd.

8. Pupils should know at least fifty species of birds common in the locality and should be able to give definite knowledge showing in what ways and to what extent birds are useful.

9. Let pupils write a composition of from two to three hundred words on some such topic as alfalfa, usefulness of birds to the farmer, sweet clover, importance of careful accounts on the farm, selecting seed corn, etc.

10. Pupils should have a knowledge of the plant in relation to the soil especially as to foods supplied the plant, common sources of these, how the plant gets them and how they are used. Importance of fertilizers and soil conservation should be emphasized.

11. Give special credit for the construction of bird boxes, corn dryers, seed test boxes, etc. Allow credit also for the successful completion of home projects, club work, and other practical work.

Note: The county superintendent in each county may indicate in a more specific way than is done here the points of local importance which should be emphasized.

V. REFERENCES

Every teacher should have a number of good texts for reference use, in addition to the text in the hands of the pupils. Consult the county superintendent about the best ones to use. A brief selected list of reference books is given here. For others see Township library list, pp. 66–73.

Large use should be made of available bulletins and circulars of information. Lists are given below of those which can be secured from the United States Department of Agriculture at Washington, D. C., and from the Agricultural College at Madison. Many of these may be in the school library. The teacher should check over those

on hand and send for the others, most of which can be obtained free. If difficulty is found in getting those from the United States department, they may often be secured by asking the help of the congressman of the district. These bulletins should be filed by subjects in library file boxes. Such boxes can be obtained of any library supply company or from H. Schulz & Company, Chicago, at a very small expense. Much valuable reference material may be found in Farmers' Institute Bulletins, and in the U. S. Department of Agriculture Yearbooks, copies of both of which are generally to be found in the country schools. Most of the books in the following list are on the Township library list and may be in the library already. Others are especially good if they can be obtained. Bulletins and circulars of information are listed in order of numbers as a means of facilitating ordering and as a convenience in checking. These bulletins are arranged under topics in the "Course of Study" above referred to.

1. **Reference books**

Warren. Elements of agriculture. (T)
Cromwell. Agriculture and life. (T)
Myrick. The book of corn. Judd. $1.50.
Shamel. Manual of corn judging. Judd. $0.50.
Fraser. The potato. (T)
Pammell. Weeds of farm and garden.
Snyder. Soils and fertilizers. Macmillan. $1.25.
Lewis. Poultry keeping. (T)
Plumb. Types and breeds of farm animals. (T)
Van Norman. First lessons in dairying. (T)
Green. Popular fruit growing. Webb. $1.00.
Green. Vegetable garden. Webb. $1.00.
Weed & Dearborn. Birds in relation to man. (T)
Bailey. Farm and garden rule book. (T)

2. **Periodicals.**

Hoard's Dairyman. (T)
Wisconsin Agriculturist. (T)
Breeder's Gazette. Chicago, $2.00.
American Poultry Journal. (T)
Poultry Success. (T)

3. **Material from the State Agricultural College**

a. **Bulletins**

No.
33 Rations for dairy cows
38 One hundred American rations for dairy cows
45 Apple culture
49 Maintenance of soil fertility
75 Testing cows at the farm
76 Also 20, 39—Noxious weeds
83 Silage and the construction of modern silos
84 Bovine tuberculosis in Wisconsin
91 Oat Smut in Wisconsin
98 On the prevention of oat smut and potato scab
103 Soiling crops for dairy cows in Wisconsin
105 Improvement of home and school grounds
108 Trees and shrubs for shade and ornament
110 Spraying fruit trees

111 Oat smut and its prevention
112 Alfalfa in Wisconsin
121 Alfalfa or lucerne
125 Silo construction
135 Spraying of potatoes for leaf blight and rot
139 Principles and maintenance of soil fertility
153 Portable hog houses
168 Spraying potatoes for blight and the potato beetle
*176 Opportunity for profitable farming in upper Wisconsin
177 Potato culture in northern Wisconsin
183 Growing clover for seed and forage in northern Wisconsin
190 Common insect pests of fruits in Wisconsin
*201 Planting the commercial orchard
*202 The management of heavy clay soils
*204 The improvement of sandy soils
*205 The development of marsh soils
207 The management of a bearing orchard
214 Concrete silo construction
215 Poultry house construction
221 Getting the most profit from farm manure
*223 Climate of Wisconsin in relation to agriculture
225 Commercial varieties of potatoes in Wisconsin
*229 The right drain for the right place
*230 Soil acidity and liming
234 Rural social centers in Wisconsin
*235 Soiling crops vs. silage for dairy cows in summer
*242 Pork production in Wisconsin
*261 Poultry raising in Wisconsin

b. Circulars of information

No.
3 Directions for spraying potatoes
*4 Wisconsin seed inspection law
*7 Agricultural extension service
*8 Corn judging
12 Spraying the home orchard
*18 The curing and testing of seed corn
19 The control of quack grass and Canada thistles
*23 A catechism on Bovine Tuberculosis
*27 How to use the Babcock test
34 Sewage disposal for rural homes
35 Importance of alfalfa as a Wisconsin forage plant
36 Potato diseases in Wisconsin and their control
38 Wisconsin banker's agricultural contests
*48 How to rid our farms of weeds
*51 Social surveys of rural school districts
*52 Control of potato diseases in Wisconsin
*54 Hog cholera

Note: Titles starred are available for free distribution.

4. **Circulars from Wisconsin Department of Agriculture** (sent on application; address, Madison, Wis.)

No.
1 Wisconsin nursery and orchard inspection law
2 How to control the cottony maple scale
3 Common spraying materials and other insecticides
4 Agricultural statistics for Wisconsin

5. Farmers' bulletins from United States Department of Agriculture.

No.
22 Feeding of farm animals
44 Commercial fertilizers, composition and use
51 Standard varieties of chickens
54 Some common birds in their relation to agriculture
55 Dairy herd, its formation and management
77 Liming of soils
106 Breeds of dairy cattle
113 The apple and how to grow it
127 Important insecticides, directions for their preparation and use
134 Tree planting on rural school grounds
154 Home fruit garden, preparation and care
155 How insects effect health in rural districts
157 Propagation of plants
181 Pruning
185 Beautifying the home grounds
188 Weeds used in medicine
192 Barnyard manure
195 Annual flowering plants
196 Usefulness of American toad
205 Pig management
206 Milk fever, its simple and successful treatment
218 School garden
220 Tomatoes
229 Production of good seed corn
247 Control of codling moth and apple scab
253 Germination of seed corn
255 Home vegetable garden
257 Soil fertility
270 Modern conveniences for the farm home
275 Gipsy moth and how to control it
278 Leguminous crops for green manuring
287 Poultry management
292 Cost of filling silos
313 Harvesting and storing corn
321 Use of split-log drag on earth roads
323 Clover farming on sandy jack-pine lands of the North
339 Alfalfa
346 Computation of rations for farm animals by use of energy values
351 Tuberculin test of cattle for tuberculosis
355 Successful poultry and dairy farm
379 Hog cholera
385 Boys' and girls' agricultural clubs
406 Soil conservation
407 Potato as truck crop
408 School exercises in plant production
409 School lessons on corn
413 Care of milk and its use in home
414 Corn cultivation
415 Seed corn
428 Testing farm seeds in home and in rural school
438 Hog houses
444 Remedies and preventives against mosquitoes
455 Red clover
456 Our grossbeaks and their value to agriculture
459 House flies

478 How to prevent typhoid fever
485 Sweet clover
491 Profitable management of small apple orchard on general farm
492 More important insect and fungous enemies of fruit and foliage of apple
493 English sparrow as a pest
495 Alfalfa seed production
497 Some common game, aquatic, and rapacious birds in relation to man
505 Benefits of improved roads
506 Food of some well-known birds of forest, farm, and garden
507 Smuts of wheat, oats, barley, and corn
511 Farm bookkeeping
513 Fifty common birds of farm and orchard
521 Canning tomatoes at home and in club work
528 Hints to poultry raisers
530 Important poultry diseases
533 Good seed potatoes and how to produce them
537 How to grown an acre of corn
540 Stable fly
543 Common white grubs
545 Controlling Canada thistles
562 Organization of boys' and girls' poultry clubs
566 Boys' pig clubs
572 System of farm cost accounting
574 Poultry house construction
578 Making and feeding of silage
585 Natural and artificial incubation of hen's eggs
586 Collection and preservation of plant material for use in study of agriculture
589 Home made silos
597 Road drag and how it is used
602 Production of clean milk
606 Collection and preservation of insects and other material for use in study of agriculture
609 Bird houses and how to build them
612 Breeds of beef cattle
617 School lessons on corn
619 Breeds of draft horses
621 How to attract birds in northeastern United States
624 Natural and artificial brooding of chickens
630 Some common birds useful to farmer
637 Grasshopper problem and alfalfa culture
659 True clothes moths
660 Weeds, how to control them
662 Apple-tree tent caterpillar
666 Foot-and-mouth disease
679 House flies
682 Simple trap nest for poultry
689 Plan for small dairy house
692 Game laws for 1915

Other helpful bulletins have been prepared by the Bureau of Plant Industry, the Bureau of Animal Industry, and the Bureau of Entomology. Those especially interested should send to the United States Department of agriculture for separate catalogs of publications on plants, animals, insects, birds, and others.

HYGIENE, SANITATION, AND PHYSIOLOGY

I. GENERAL SUGGESTIONS

1. All the work outlined under hygiene and sanitation should be taught during the morning or opening exercises. The topics dealt with are life problems and most of them apply with equal force to pupils of all ages. They should, therefore, be presented to the whole school and not to a small section or class. It is necessary that this instruction be given from year to year in order that it may stick and because of the rapid advancement made in science, sanitation, and kindred subjects, and the necessarily added information at the disposal of the teacher, the school, and the community. Each topic should be prepared and presented by the teacher usually without the use of a textbook. The older pupils may be called upon to add information or report upon certain readings bearing upon the subject, but the teacher must see that all matter presented is made intelligible to the whole school.

2. The opening exercise period is one of the most important periods of the day and the material given should be reviewed from day to day, proper drill exercises given on it, and every effort made to fix the essential laws, principles, and subject matter in the pupils' minds. The teacher must not be satisfied in giving the children a knowledge of the laws of health alone, but must strive for the application of them until the habits of right living are formed. She should remember also that she is teaching more by example than by class room instruction. Definite application of the things taught should be insisted upon in the school, and, so far as possible, at the homes. It is from the school that we must get the leavening influence in the school district that is needed in order that the individual may intelligently care for the health of his body and keep it efficient, and in order that sanitary precautions be taken in erecting and locating houses and all other buildings.

3. The American Medical Association spends thousands of dollars annually in providing short articles on health subjects for publication in magazines and newspapers throughout the country, and has established lecture bureaus that make it possible for many thousands of people to hear illustrated lectures given by local phy-

sicians and dealing with those ailments to which we are most subject. State and local societies and associations have been organized, whose object is the education of the layman in the prevention of certain diseases. It is these organizations, together with the aid of the schools, that have made the public health conditions today far superior to what they were a few years ago.

II. COURSE OF STUDY

The outlines of the following topics are brief but it is hoped that enough has been said under each one to direct the thought along lines interesting and profitable in the field of sanitation and hygiene.

1. Care of face and hands

a. What kind of water should be used?
b. What places are often neglected?
c. What things are needed in washing and how should we use them?
d. Why use toilet soap? Why not use laundry soap?
e. Discuss liquid soap, kinds of receivers for it, soft soap—how it is made and for what use,—care of hard soap after using it.
f. Demonstrate the use of paper towels, kind of holders, and the cost per pupil per year in using them.

2. Care of nails

a. Teach how and when to use scissors, nippers, nail file, etc.
b. What other things are needed to keep nails clean?
c. Why should we not use a knife?
d. How shall we treat hang nails?
e. Why not bite the nails?
f. How should the nails look when well kept?
g. What are the uses of nails?

3. Care of hair and scalp

a. The neglect of the proper care of the hair is too common with both children and adults. This may be largely overcome if teachers will take occasion often to teach the necessary articles and practices in keeping it healthy and clean.
b. Name the things necessary to keep the hair clean.
c. How often should it be washed? Why not oftener?
d. Is it necessary to use both brush and comb? Why?
e. Draw a section of the skin showing the hair, oil sacks, muscles controlling the hair, blood vessels, etc.
f. Why and when does the hair stand straight up?
g. What are the uses of hair by uncivilized people?
h. Discuss ways of combing hair by different nations.
i. What is dandruff? How may it be cured?
j. How are children having lice to be treated?
k. Is any commercial use made of the hair of the lower animals?

4. Care of the mouth and teeth

a. When and how should the mouth be washed?
b. Many disease germs enter the body through the mouth.
c. How often should teeth be brushed?
d. Give all reasons for brushing the teeth.

e. Brush the gums because healthy gums will grow healthy second.

f. Demonstrate the motion of the brush in keeping the teeth clean. Occasionally have a tooth brush drill.

g. Discuss and show samples of paste, powder, and cream.

h. Discuss the first and second teeth and the relative importance of each.

i. Show how crooked and badly formed second teeth are caused by not removing first teeth.

j. Teach devices for straightening teeth and how teeth are abused in biting hard substances.

k. Have pupils visit the dentist often, and, if possible, have a dentist speak to the school on the care of the teeth.

l. White, regular, and sound teeth add beauty and comfort throughout life.

m. Decayed teeth look, smell, and taste bad, cause pain, and ill health and make sound teeth decay.

n. Secure a collection of decayed and filled teeth from a dentist. If this is impossible, secure teeth of the lower animals. Have pupils break them to observe different coatings, as well as to see nerve cavity.

5. Care of nose and throat

a. The nose is used for breathing and smelling. We should always breathe through it, not through the mouth.

b. Teach how the little hairs of the nose keep dirt and disease germs from passing into the lungs.

c. Discuss the shape and motion of the little hairs, and how the nose warms and moistens the air before it reaches the lungs.

d. Colds and catarrh are diseases of the lining of the nose and are usually caused by breathing foul, stuffy air carrying dust and germs. They may be largely prevented by breathing pure air.

e. By holding the nose and closing the mouth, show how to force the air through the eustachian tube to the ear drum or tympanum. You should hear a click, which shows the tube is open. If it is closed, you will have earache, and gatherings in the ear which may burst the drum, cause much pain, and often produce deafness. Air should not be forced in when one has a cold as infection may result.

f. Discuss how and when to use the handkerchief.

g. Adenoids are soft, grape-like bodies that sometimes grow in the pharynx just behind the opening of the nose. They partly close the openings of the nose, the eustachian tube, cause mouth breathing, and often produce deafness. They should be removed as mouth breathing deforms the upper jaw and allows cold, dirty air to go into the lungs. If children appear stupid and habitually breathe through the mouth they probably have adenoids.

h. The throat is kept in much better condition if it is gargled daily with water containing a little salt.

i. Collect and show pictures of mouth breathers.

6. Care of the eyes

a. Pupils should read only in good light. Reading at night with poor light is a common cause of eye strain. Imagine a plant in the school is a lamp. Have the children sit so that the light will fall correctly on the book. Ask them to report on several successive days if they sit in this position when reading at home. If not, what prevented them from sitting in such a position?

b. Notice how the bones surrounding the eyes protect them from injury, also how the eye lashes protect them from dust and germs.

c. Study the shape of the eye lashes. They do not get entangled because the upper ones curve upward and the lower ones curve downward.

d. Teach the position of the eye or tear glands, and about the little duct leading from the eye to the nose.

e. Which corner of the eye do tears run out of? Why?

f. When a cinder enters the eye during the day it is usually found in the corner next to the nose the next morning. Why?

g. Teach how to remove particles from eyes, and that all eyes should be protected from infectious germs which get into them from dirty fingers and dust in the air. Germs also enter the eyes through the blood during such contagious diseases as measles and scarlet fever.

h. Trachoma is an inflammation of the mucous membrane which lines the inner surface of the eyelids. It is a germ disease and is transmitted from the secretion of the diseased eye to the well eye. The common means of transmission are such articles as towels, handkerchiefs, bed linen, etc. Over half of those who have it are made blind, and the economic usefulness of every patient is greatly decreased. Granulated eyelids are the first stage of the disease. There are comparatively few people who have seen cases of it, but, with the westward trend of population, it is being spread all over the United States. The necessity of individual towels, clean bed linen, blankets in place of quilts, etc., should be impressed upon the pupils' minds.

i. Pupils with diseased eyes should not attend school without the consent of a health officer or doctor. Teachers should explain to parents the necessity of caring for the children's eyes and the danger from not doing so.

j. Test all eyes in the school twice a year by the use of the Snellen Charts. They may be secured from F. A. Hardy & Co., 10 S. Wabash, Chicago, Ill. Price 25 cents. They may often be secured from a local oculist at a much less cost.

k. Blind children are taught to read raised characters known as *braille,* or *point,* through the sense of touch.

l. The State School for the Blind is located at Janesville, and at present there are day schools for the blind at Milwaukee and Racine.

m. Information about the State School may be secured by addressing the Superintendent of the State School for the Blind, Janesville, Wis., and information about the day schools by addressing the State Superintendent, Madison, Wis.

7. Care of the ear

a. Draw on blackboard or show a cut of a cross section of outer ear, ear canal and drum which entirely divides the ear canal from the eustachian tube. This tube leads from the drum to the throat, opens just back of the nasal passage and is always filled with air. The ear wax is secreted by the lining of the drum, flows outward and carries dirt and insects out of the ear.

b. Do not pick the ears with hairpins, toothpicks or ear spoons. You may destroy the tiny glands which secret the wax. (What should you do?)

c. Never strike or pull the ear. Do not shout in the ear. Avoid very shrill or very loud sounds near the ear. Any of these causes may break the drum (tympanum), or disturb the delicate bones that transmit the vibration to the nerves leading to the brain.

d. All pupils should be tested at the beginning of the school year to determine whether or not there is defective hearing. The distance at which the tick of an ordinary watch can be heard by the pupil is a simple test sufficiently accurate to reveal any serious defect. Test each ear separately. The pupil's eyes should be closed or covered during the test. Noticeable defects should be reported to parents.

e. The state maintains day schools for the deaf in connection with the public schools in the following cities: Antigo, Appleton, Ashland, Black River Falls, Bloomington, Eau Claire, Fond du Lac, Green Bay, Janesville, Kenasha, La Crosse, Madison, Marinette, Marshfield, Mil-

waukee, Mineral Point, New London, Oshkosh, Platteville, Racine, Rice Lake, Ripon, Sheboygan, Stevens Point, Superior and Wausau. In these schools deaf children are taught to speak and read the lips of persons speaking to them. Children who stammer or have defective speech may receive special instruction in these schools. For information concerning these schools, address the State Superintendent of Public Intruction, Madison, Wis.

f. The State School for the Deaf is located at Delavan. For information concerning the same, address the Superintendent of State School for the Deaf, Delavan, Wis.

8. Care of the skin

a. The dirt on the skin comes through the skin from the body in the form of oil and refuse matter and also from the air or from objects on which it has collected.

b. Everyone should bathe the entire body at least once a week in warm, soft water. Some should bathe oftener, depending largely upon the kind of labor and conditions under which they work. The feet should be bathed oftener.

c. Study about the various kinds of baths and the use of each kind. Show pictures of public bathing places and discuss the necessity of them in villages and cities.

d. Medicated soaps should, as a rule, not be used.

e. Draw section of the skin and show sweat glands, nerves, dermis and epidermis.

f. All diseases that are "catching" or are spread from one person to another are known as infectious. Any of them weaken the system and may be prevented. If this can be done in childhood, the person often becomes immune to them. The evil effects of childrens' diseases often last for years, or all through life.

g. Teach about the diseases that enter the body through the skin. How do they enter?

h. What are warts, carbuncles, blisters, corns, dandruff, ringworm, measles and scarlet fever?

9. Alimentary canal. The alimentary canal is a passage way of about thirty feet in length extending through the body. It secretes certain juices at different places which digest the food and kill injurious germs, but there are long folds in the intestines where these germs may grow causing typhoid fever, diarrhea and other intestinal diseases. The mouth should guard the remainder of the canal from these diseases and from unwholesome food. Much water should be drunk, vegetables and fruits eaten and exercise taken in the open air at regular times or constipation may result. Many people are troubled with constipation as is shown by bad breath, headache, sallow complexion, and a general lowering of the vitality of the whole body. Often constipation is the cause of colds, and indirectly the cause of some of the most serious diseases. The undigested material should be removed from the canal at regular times.

10. Care and use of clothing

a. What kinds of clothing keep the body warm? What kinds keep it cool?

b. Where should clothing be hung in the home and in the schoolhouse?

c. Discuss cleanliness of underclothing. Teach the necessity of removing and properly airing it, as well as airing the regular clothing, every night. Some of the children may be in the habit of sleeping in the underclothing they wear during the day.

d. Clothing will look better and wear longer if kept in shape by pressing, and proper hanging at night. Teach the pupils that their clothing should be free from holes and protected from wear and dirt. "A stitch in time saves nine."

11. Accidents and emergencies

a. Discuss the different kinds of wounds of the skin and disinfectants used in caring for them. Unclean wounds often lead to blood poisoning.

b. Show how to place the different kinds of bandages, plasters, and slings upon the body. Every school should have a package of antiseptic cheesecloth for bandages and some boracic acid for disinfecting purposes.

c. Teach how to tie a square knot.

d. What is an ambulance?

e. Dwell upon the danger of air guns and cite accidents resulting from their use. Show how to carry a gun.

f. Always carry knives and scissors closed.

g. Children should not carry matches. Give illustrations of fires caused by match carriers.

h. Never touch a poison. Let physicians handle it. Alcohol is a poison.

i. Give illustrations of poisoning through accident.

j. Teach the common antidotes and how to administer them.

k. If poisoned, always call a doctor.

l. Discuss the class of accidents usually occurring on July 4th, and teach the necessity of a sane fourth, and also the growth of the idea over the country.

m. Teach what to do in case of fainting, freezing, drowning, sun strokes, broken bones, bleeding, etc.

12. Habits of children. Habits of promptness, cheerful obedience, politeness, respect for age and for those in authority should be cultivated. Good sitting, standing and walking positions should be encouraged by complimenting those practicing them as well as complimenting such positions to those not practicing them. Speak of good habits oftener than you do of bad habits. Tell the pupils of their strength and their accomplishments more than you do of their weaknesses and shortcomings. You cannot make strong individuals by constant repression. Of course it is well to speak of such habits as gum chewing in public, sneezing in the wrong direction and without asking to be excused, spitting, etc., but always leave with the class impressions of those not so ill-mannered and rude.

13. Sickness

a. Show the financial and social loss caused by sickness to the individual, the community, and the state. About 42% or nearly half of those who die each year die of reasonably preventable diseases. The economic losses due to these deaths are at least a billion dollars. The losses in happiness, the evil effects of breaking up homes, and all such losses of a personal nature are beyond computation. About 3,000,000 persons in the United States are constantly seriously ill.

b. Study the public health movements in cities and in the country. What is being done in your district?

c. Communicable diseases are classified under three heads by the State Board of Health:

(1) Those to be quarantined are
- (a) Diphtheria
- (b) Scarlet fever
- (c) Smallpox
- (d) Spinal meningitis
- (e) Infantile paralysis
- (f) Asiatic cholera and yellow fever
- (g) Typhus fever
- (h) Bubonic plague

(2) Those to be placarded are
- (a) Typhoid fever
- (b) Measles
- (c) Whooping cough
- (d) Chicken pox

(3) Those to be reported to the local health officer but not placarded are
- (a) Mumps
- (b) Erysipelas
- (c) Tuberculosis
- (d) Trachoma
- (e) Ophthalmia neonatorum
- (f) Venereal diseases

d. Placards

(1) What is a placard?

(2) Quarantine cards are always red with the disease printed in black letters.

(3) The placard for diseases which need the placard only may be any color with the name of the disease printed on it.

e. Disinfection

(1) All buildings, including schoolhouses, should be disinfected after any contagious disease. Is it done in the homes of your district?

(2) Has your schoolhouse been disinfected since the last contagious disease case in it?

f. Write to the State Board of Health, Madison, Wis., for "Rules Relating to the Sanitary Care of Schools."

14. Sanitary supplies for schools

The following supplies are considered necessary in all schools:

a. Sink or wash basin
b. Soap
c. Paper towels
d. Looking glasses for both sexes
e. Broom
f. Sanitary floor brushes
g. Mop.
h. Ash pail
i. Snow shovel
j. Coal shovel
k. Facilities for cleaning shoes at the entrance of the door
l. Sweeping compound which should be kept in a damp place to prevent evaporation of oils
m. Sanitary dust cloths
n. Pencil sharpener
o. Waste baskets
p. Toilet paper
q. Laundry stove for heating water

15. Sleep

a. All children under twelve years of age should sleep ten hours, and all adults eight, or, better still, nine hours

b. Lack of sufficient sleep produces a weakened condition of the body and often causes sickness.

c. People should sleep in well ventilated rooms, on open porches, or out of doors, where the air is cool, moist, pure, and in motion. Houses should be constructed for out door sleeping and a warm dressing room provided near the sleeping porch where a person may prepare for bed and dress in the morning.

d. What classes of people are likely not to get enough sleep?

16. Water

a. The body needs much pure water. It washes out the system, cools it, and frees it from poisons.

b. At least three pints of water should be drunk daily.

c. Water is found in all plants and is pure in them. Why?

d. Drinking water may not be pure. Give causes of polluted water, show pictures illustrating it, and discuss local conditions where it may occur.

e. Sanitary drinking fountains are necessary. Show cuts of fountains and how anyone should drink from a fountain.

f. How can we make hard water soft and soft water hard? Why is it important to know how to do this?

17. Air

a. A given amount of cold air is heavier than the same amount of warm air, therefore, warm air is pushed up by the cold air in falling. When there is a body of cold air and one of warm air in a room, the cold air falls and pushes up the warm air. Carbon dioxide is exhaled by all animals and when cold is heavier than warm air so is found at or near the floor of buildings. It is mixed with the cold air at the bottom of the room.

b. Show how this heavy, impure air must be removed from rooms near the floor. It is the pure, warm air in the upper part of rooms that should not escape but be allowed to cool and drive the cold, impure air near the floor out of the room. This impure air passes out of the room at the floor into a flue or chimney, and the heated air is easily pushed up by the heavier falling air in the room.

c. Teach that the air in buildings is made impure by the germs thrown off by children who have colds, mumps, measles, and also from odors from breath, lack of bathing, dirty clothes, etc. This air must be removed to prevent the spread of disease and to permit the pure oxygen laden air to enter. Each student needs thirty cubic feet of fresh air per minute.

d. Moisture must be added to the air in buildings in cold weather. Cold air upon entering a building is heated and expands so as to occupy more space inside the building than it did outside, yet this larger space inside has only the same amount of water or moisture in it that was in the smaller space outside, therefore, water in the form of vapor must be added to make the air inside as moist as that outside. Show the device for doing this in your school, and how lack of moisture in air will cause furniture, the skin, and the mucuous membrane, to dry up. A dry skin or membrane causes colds, coughs, and a weakened system for the introduction of more serious diseases. There should be a large evaporating pan kept filled with water on every stove.

e. Schools should own both a thermometer and a hygrometer. Teach the pupils how to read them and what is meant by the readings.

f. Explain what is meant by a vacuum.

g. Break a wornout electric light bulb in the presence of the pupils and explain the noise and why the glass is thrown as it is.

h. What is thunder? Zigzag lightning is caused by the electricity taking the easiest path through the air.

i. Put a little sawdust in a glass of water, heat the water and notice the movement of the sawdust as carried by the water. Hot and cold air move in the same way as hot and cold water.

j. Flush the schoolroom with pure air by opening windows and doors at recess and noon. Free air is pure and stagnant air foul.

18. Light

a. Light should fall over the left shoulder because we are a right handed people. If it comes over the right shoulder, the right hand causes a shadow on the paper of the page where the eye falls in reading.

b. The windows of school buildings should be on the left side and to the rear of pupils, the window sill above the level of the pupils' eyes when seated so that direct rays of sunlight will not be thrown in the face of the child, and the top of the window should extend well up to the ceiling. The window space should be one-fifth of the floor space of the building. Window curtains should not cover any part of the windows except to shut out the sun's rays when they fall on pupils' desks.

c. Tubercular, as well as many other germs, die when subjected to the direct rays of the sun.

d. Teach the germ destroying qualities of light, and why it is necessary to have some direct rays of light admitted into the schoolhouse during some period of the day.

19. Outbuildings and school grounds

a. Poorly constructed and dilapidated outbuildings often induce pupils to deface them by carvings and obscene writings. Seldom will this be done if they are painted and kept clean. They should also be well lighted, the windows and door screened, and the entrance protected from the view of school building and road.

b. The ground should contain at least two acres of land; be platted, graded, drained; walks to school building and outbuildings built; and trees, shrubs and flowers planted according to the design of someone who has given such matters more than ordinary thought—a landscape gardener if possible. It would be well to organize the people of the district in order that the above suggestions may be carried out. Many school grounds are rough and uneven. They should be level so children can run and play.

20. Flies and mosquitoes

a. Flies lay their eggs largely in manure piles and in old rubbish. The eggs hatch within twenty-four hours into maggots which develop into full grown flies in about ten days after the eggs were laid. The new fly lives about ten days and during this time lays a large quantity of eggs where it was hatched. It has been said that the fly is hatched in the manure pile, lunches in the garbage can, and dines in the house.

b. Flies carry disease germs and filth on their wings and hairy feet. They have no commercial value and should be killed.

c. A better slogan than "Swat the fly" would be "Starve the fly." Discuss the time of year in which it is best to "swat" or "starve the fly."

d. Show the necessity of destroying the breeding places of flies, and the necessity of the proper care of garbage. The hauling out of barnyard manure and the rubbish from the alleys prevents the multiplying of flies.

e. Discuss the use of fly paper and fly traps.

f. Mosquitoes breed on the surface of stagnant water. They live near bodies of water and in wet seasons many more are found than in dry seasons. They, like flies, carry disease germs. The mosquito, however, carries them in its system by sucking the blood from a diseased individual and injecting it into the healthy person. What ones cause malaria? What yellow fever? Mosquitoes are dangerous and an annoyance to people living or camping near water.

21. Care of animals

a. Animals need light, heat, ventilation and other healthful and sanitary conditions as well as people.

b. What are the common contagious diseases of horses, cattle, hogs, sheep and chickens?

c. Discuss any diseases common in the district.

d. Why are barns, hen houses, and other farm buildings ventilated and disinfected?

e. Visit all ventilated barns in your district with the larger pupils and study the system of ventilation.

f. Why do some people whitewash barns? How is it done?

g. Are cows in the barns of your district kept clean?

h. Discuss the necessity of washing the cow's udders.

i. Is there tubercular trouble in any of the cattle, hogs, or any of the other animals in the district? How do you know?

j. Name the sanitary precautions taken in the best dairy barns.

k. Is it a common practice for people to wash their hands before milking, and milk in clean clothes?

l. What kind of a pail is considered most sanitary?

m. Is a milking machine more sanitary than hand milking?

n. Why can some cheese factories and condensed milk factories afford to hire men whose whole time is given in teaching people how to care for milk before it gets to the factory?

o. Is pure water, balanced and healthful rations fed to the animals in your district?

p. How many farmers in the district belong to a cow testing association? Discuss its benefits to the farmer.

q. Are the people trying to keep the cattle well by proper feed and drink, or do the animals, like people, suffer in winter from improper exposure and unbalanced rations, diseases due to herding them together, poor ventilation, etc.?

r. Discuss the relation of the health of animals to that of human beings.

s. What are the food products of animals?

22. Care of plants

a. Nearly all plants must be protected from plant and animal enemies.

b. Fungus growths destroy some plants and prevent others from bearing fruit. To kill the fungus and not hurt the tree or shrub, farmers spray the trees with a bordeaux or some other kind of mixture. The spraying must be done at certain times of the year and at different times for different trees and vegetables.

c. What spraying mixture is used for the apple tree, the plum tree, and the cherry tree?

d. What is used for currant bushes, melon vines, and potatoes?

e. Visit orchards and gardens, if possible, when they are being sprayed.

f. Get cuts and pictures of spraying machines from seed dealers, also show fruit from trees sprayed as well as from those not sprayed.

g. Some insects chew the leaves of plants and some suck the sap of the plant. The one is killed by a poisonous spraying mixture at the time they are feeding, and the other is smothered by closing the air passages.

h. How many farmers in your district spray their orchards and gardens, disinfect farm buildings, feed balanced rations to cattle, and have their cattle annually tested for tubercular and other contagious diseases?

i. Tabulate the common food products from plants in your district. Make another tabulation showing the plant foods eaten by you but grown in other countries. Estimate the financial loss to the farmers in your district because of plant diseases.

PHYSIOLOGY

1. Grade and text. Physiology is to be taught *in the sixth grade from a modern textbook.* The intermediate text of any series is supposed to be used and not what is known as the advanced book, which should be left for use in the high school.

2. Class work. The class work should be made as concrete as possible and every effort made to clarify the pupil's thinking by the use of diagrams. Objective work should be made prominent. Parts of the lower animals should be brought by the pupils from their homes and studied. The text will guide the teacher as to what may be seen. Certain parts of the pig, sheep, calf, and chicken lend themselves to this work and may be kept pliable and free from decomposition for several days by placing them under water.

3. Notebook. Every pupil should keep a notebook of drawings with explanations of them. The drawings should not be reproductions of those in the text unless they are colored, and in this way made more intelligible to the pupils. Many of the drawings should connect parts of the different systems such as the digestive, circulatory, and respiratory.

4. Library lessons. Collateral reading from library books and pamphlets on health and sanitation should be made part of the required course. In order to help make this feature effective teach, at the beginning of the school year, the following lessons as outlined in the department publication Lessons on the School Library: "Useful Arts—Reference", p. 100; "Health and Sanitation", p. 101.

5. Suggestions. Under each topic only enough questions have been asked to guide the teacher. Excellent questions will be found at the close of the chapters in some books. Drawings not suggested here may be required but the drawing should always show something more than the one from which it is copied. Some texts contain beautifully colored plates and a careful study of them is recommended. The objective work will add interest and will clarify the hazy ideas pupils often have as a result of textbook instruction alone.

6. Diseases. Discuss diseases common to the parts studied at the close of each general topic. The book will describe and name the disease attacking each organ.

7. First month—Digestive system

a. Name the parts of the alimentary canal and show on a diagram where each begins and ends.

b. Discuss the glands found in it and the digestive purposes of the secretions.

c. What is the use of saliva, gastric juice, bile, pancreatic juice and intestinal juice.

d. The esophagus is a tube eight or nine inches long but is not open like the windpipe. Why is it not made like the windpipe?

e. How does food pass from the mouth to the esophagus? How down the esophagus?

f. Watch the action of the esophagus of a horse when eating or drinking from the ground.

g. Can a person drink or eat with his mouth lower than his stomach?

h. What is the great use of the stomach? Study its shape and position in the body.

i. The chief seat of digestion and absorption is in the small intestine.

j. Notice the coecum, appendix, direction and size of the colon.

k. Have the students distinguish clearly between mastication, digestion, absorption and assimilation.

l. They should draw all the parts of the canal to a certain scale, except the intestines, coloring each part with crayola or chalk of a different color than adjoining parts.

m. Draw on a large scale a villus showing epithelium, arteries, capillaries and lacteals, each part to be in a different color.

n. Draw on each side of the villus the glands which form intestinal juice.

o. Have the pupils bring from their homes the esophagus and a small piece of the stomach of a pig or some other animal, also bring the liver with the gall bladder, and the portion of the small intestine where the bile and pancreatic juice enter.

p. Find the mucous and muscular tissues of the esophagus and intestine.

q. Does the bile and pancreatic juice enter the intestines at the same place?

r. Why is a gall bladder needed?

s. Show the mesentery. One of its uses is to fasten the intestines to the spinal column.

t. What use is sometimes made by man of the small intestine of pigs? What of the stomach of cattle?

u. Secure, if possible, some tripe from the butcher shop.

v. Draw a cross section of a tooth, showing, in different colors, enamel, dentine, cement and pulp cavity.

w. Secure a collection of teeth from a dentist showing parts of the tooth, decayed teeth, etc.

x. Teeth may be broken from the jaw bone of the lower animals that have been slaughtered in order that pupils may see the coatings of the teeth and how they are imbedded in the bone. A careful examination will show the nerve channel from the jaw bone to the pulp cavity of the teeth.

8. Second month—Circulatory system

a. The circulatory system cannot be understood by simply studying what any book prints. The cuts and drawings must be studied

until the pupils understand what each teaches. In addition, there should be made at least the following drawings:

(1) One of the general circulatory system, showing the venous and arterial blood in colors and passing through the lungs, liver and kidneys.

(2) Another showing how the food passes from the capillaries to the cells, how oxygen reaches the cells, the path of carbon dioxide from the cell to the blood, and, in general, what refuse is carried away by the blood and what by the lymph.

(3) Again the portal system should be drawn showing veins going from intestines to the portal vein and from it to the liver. In the same drawing show lacteals passing to thoracic duct.

(4) What food passes through the portal system? What food through the lacteals?

b. The heart. It is practically impossible to understand the heart itself from drawings; in fact, to waste no time in the teaching of this system, the heart, arteries, and veins should be secured at the beginning of the study. Secure in some way the heart of a pig or sheep. Care should be exercised that the auricles are not removed and that a part of the large veins and arteries are attached. It is better to have the lungs attached also.

(1) Have the pupils see the pericardium and endocardium, distinguish the auricles from the ventricles, and notice the aorta, superior vena cava, etc.

(2) Carefully open the heart and study the bicuspid, tricuspid and semilunar valves. Have the pupils find the two parts of the bicuspid and the three parts of the tricuspid.

(3) Pour water into the heart in the direction of the blood flow and notice how it passes through it. Reverse the operation and notice how beutifully the valves are shown holding the water from passing back.

(4) Observe the difference in the thickness of the walls of the two ventricles of the heart and how thin the walls are at the apex of it.

(5) What part of the heart strikes the body wall?

(6) Have students find the semilunar valves in the aorta and study their action.

(7) Show what happens when the valves of the heart leak. What happens when the heart skips a beat?

(8) Notice how much thicker the walls of an artery are than those of a vein. Why is it so?

(9) Are arteries or veins nearer the surface of the body?

c. The blood

(1) Of what is blood composed?

(2) What is the work of each constituent of the blood?

(3) Mention at least three specific places where the white corpuscles work.

d. The lymphatic system is really a part of the circulatory system. It is the sewage system of the body. The lymphatics are small tubes in which are carried the refuse matter from the blood and the decayed cells. Most of these tubes finally unite to form the thoracic duct. This duct carries the lymph to the heart. The fat, which is absorbed by the villi of the intestines, passes through the lacteals and into the thoracic duct, uniting here with the lymph.

The lymph is purified in passing through lymph nodes. The node filters the poisons from the lymph. When it fails to flow as fast as it should and collects in the lymphatics, a person has dropsy.

Of what is the lymph composed and where does it go?

What forces the lymph along?

9. Third month—Respiratory system

a. The respiratory system consists of the nasal passages, pharynx, larynx, trachea, lungs, and tissue cells. Have the pupils draw a longitudinal section of these parts in colors, showing the relative shape and length of each.

b. Study the relation of the eustachian tube to the pharynx.

c. In the study of the larynx, have each pupil place his index finger on the upper end and his thumb on the lower end of his larynx.

d. Adenoids tend to close the air passages and should be removed.

e. Tissue or true respiration consists in the giving up of oxygen by the blood to the cells and the receiving of carbon dioxde by the blood from the cells.

f. What causes air to pass into the lungs? Does it rush in and cause the lungs to enlarge or does the lung cavity enlarge and the air go into the partial vacuum? In other words, is air drawn or pushed into the lungs?

g. What is the cause of our breathing faster after vigorously exercising?

h. Secure the larynx, trachea, lungs and heart of an animal all in one mass. Study the epiglottis, glottis, vocal cords, cartilaginous rings of trachea, bronchial tubes, the nearness of the heart to the lungs and the arteries going to the lungs.

i. Show the pupils where the artery breaks up into capillaries in the lungs and where the capillaries unite to form the vein returning to the heart.

j. Find the prominence called Adam's apple. Why was it so named?

k. With a piece of rubber tubing or large straw, inflate the lungs and notice the size of the air sacs.

l. A piece of lung placed in water will float. Why?

10. Fourth month—Purifying organs. The purifying organs are the lungs and intestines, which have been studied, the skin, liver and kidneys. While these organs have other functions than that of throwing off waste and poisonous matters the principal function is the freeing of the body from its poisons and refuse material. Different kinds of poisons are accumulating all the time in the body and require different organs to carry them out of it.

a. Have the pupils produce a colored drawing showing the relations of the kidneys to the ureters, bladder, aorta, inferior vena cava, renal arteries and veins.

b. A sectional view drawing showing pyramids, pelvis, ureter, capsule and tubules should be produced to show the action of the kidney.

c. When the skin is studied, a large cross section drawing showing its different structures such as dermis, epidermis, hair, muscle controlling it, arteries, veins, sweat glands, etc., should be shown.

d. Study the epidermis on the hands of children. If the hands are chapped or rough, pieces of epidermis may be picked off them.

e. A blister consists in separating the epidermis from the dermis. A callous is a thickening of the epidermis, and the nail is a modified form of it.

f. Have pupils bring a kidney and piece of liver to school. Not much can be seen in the liver as all cells look alike. Find the ureter, pelvis, and pyramids in the kidney.

g. What are the main poisons separated from the body by each excretory organ?

When any of the above organs are clogged or fail to work, the others take over their work. This, however, is not true in the case of the liver. People can live without a stomach, about 50,000 in the United States are living with only one kidney, many have had large pieces of the intestines removed, but no one can live without the liver. Its work is varied and no other organ can do it. It is important that all excretory organs or those engaged in separating and removing poisons be kept in the best of condition.

11. Fifth month—Nervous system. The nervous system consists of the brain and spinal cord, the nerves and the sympathetic system situated chiefly in the body cavity.

a. Have the pupils draw a side view of the brain, showing, in colors, the different parts of the brain. On another drawing show the function of each part of the cerebrum.

b. Injury to what part of the brain would cause instant death?

c. Make a diagram showing what happens in reflex action.

d. The brain and a part of the spinal cord should be secured. Study the texture of the brain. Observe the white and gray matter.

e. Are brains used for food?

f. Secure four or five vertebra and notice where the nerves leave them. Observe the ganglia.

g. Find the white nerves in a piece of meat.

h. Where do the sensory nerves end?

i. Where do the motory nerves end.

j. What is the cause of paralysis?

k. What is apoplexy?

The nervous system may be overworked and weakened by excessive study, excitement at entertainments, lack of sleep, the bullying of large boys, stimulants, and other things that produce fear, anger, and worry. The nervous system is also exhausted by too many and too vivid impressions being made upon the brain. It is strengthened by outdoor exercise, cheerfulness, contentment, and rest.

12. Sixth month—Special senses

a. The special senses are sight, hearing, taste, smell, pressure and temperature. Draw a cross section of the skin showing the nerve endings for temperature, pressure and pain.

b. Draw a horizontal section through the eye, coloring and naming each part.

c. Explain the action of light in passing through a convex lens. A concave lens.

d. When is a person far sighted and what kind of a glass corrects the ailment?

e. When is a person short sighted and what kind of a glass is needed?

f. Draw a cross section of the ear, coloring and naming each part.

g. What is the use of the ear wax?

h. What may cause deafness?

i. Test the hearing of pupils by placing a ticking watch at various distances from the ear. Do not let pupils see the watch or know from what direction the ear is approached. Which ear can you bring the watch nearer before it is heard? Why?

j. Are all external parts of the body equally sensitive?

k. Why do we not feel the food going down the esophagus?

l. Which ones of the special senses do we educate most?

m. All cooks should have the senses of taste and smell highly developed. Is it desirable that these senses should be highly educated in everybody?

n. What would happen if we had no pressure and temperature senses?

13. Seventh month—Bones and muscles.

a. Name the bones of an adult.

b. Study the composition and parts of a bone.

c. Secure bones of animals recently killed. Notice the periosteum and the places where the ligaments are attached. Study the color and find holes in them where blood vessels enter.

d. Put a long slender bone such as a pig's or sheep's rib in some diluted muriatic acid until the mineral matter has been taken out and then tie it in a knot. Place an egg in the same acid until the mineral matter is removed from the egg shell.

e. If possible, secure a bone which has been fractured and notice how nature healed the bone.

f. Why is the breast bone of a chicken usually crooked?

g. Secure a joint and after all muscle has been removed, pry the two bones forming it apart. The ligaments are holding it together. Find them. Notice the sticky, synovial fluid in the joint.

h. Secure the leg of a chicken and separate the muscles. Notice the tendons and the difference between a tendon and a ligament. Observe the connective tissue and notice how the muscle is attached to the tendon and the tendon to the bone.

i. Have the pupils work their fingers and notice the movement of the tendons on the front of the wrist.

j. There are three kinds of muscles—the striated, nonstriated and heart. Secure a piece of common muscle, a piece of the esophagus and a piece of a heart, which represent respectively the three muscles. Study the texture and work of each kind.

14. Eighth month—Miscellaneous work. The last month should be devoted to the discussion of such topics as the following:

Prevention of diseases
Accidents
Ventilation
Food and drink
Stimulants and narcotics

Secure pamphlets from the State Board of Health, Madison, Wis., and other sources that deal with the above topics more in detail, and give more recent information than can be gotten in the average text. The whole subject should now be reviewed in a large way. Connect or knit together the great systems so that the students may see the dependence of one upon the other. Review the work of the health movements of the country and those in your county and district. Also re-

view the more important part of the work on hygiene as given in this outline.

III. TESTS FOR GRADUATION

1. Pupils should be able to discuss intelligently the working of any of the great systems.

2. They should be able to produce from memory the drawings in their notebooks.

3. They should have read at least two small books on sanitation and be familiar with all books on sanitation in the library.

4. They should know the general rules of health and how to apply them to themselves and the community.

5. They should know the need of pure air for a sleeping room, the movement for sleeping porches on houses and that pure air is a large factor in the cure of many diseases.

6. They should know the laws of Wisconsin about the sale of intoxicating liquors to minors, the use of tobacco and the rules of the State Board of Health relating to the sanitary care of schools.

7. They should understand the importance of cooperation in preventing the spread of contagious diseases and in lengthening the average life of man.

8. They should have formed the habit of the proper care of their bodies and of an active community interest in health problems.

9. They should know the effect of tobacco and alcohol on the body and mind, and the financial, social and moral loss to the community by their use.

10. They should be able to name ten of the great physical and moral handicaps in life.

Note.—More important than anything else is the development and fixation in the pupils of hygienic habits that will help to keep them in good health.

IV. REFERENCES

1. **References for pupils**

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Eadie. Physiology and hygiene for young people. Scribner.
Hutchinson. The child's day.((T)
Jewett. The Gulick hygiene series. (T)
O'Shea & Kellogg. Making the most of life. (T)
Overton. Applied intermediate physiology. Amer. Bk. Co.
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Blaisdell. Practical physiology. Ginn.
Coleman. The people's health. Macmillan.
Conn & Buddington. Advanced physiology and hygiene. Silver.
Davison. Human body and health. Amer. Bk. Co.
Great white plague. Issued by the State Superintendent, Madison, Wis.
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Walters. Physiology and hygiene. Heath.
Watt. Open air. Little Chronicle Co., Chicago.

HISTORY

I. GENERAL SUGGESTIONS

1. Attitude of pupils toward the subject. Though the teaching of history should result in the acquisition of knowledge, yet the facts learned are not so important as the attitude the pupil develops toward the subject. The foremost aim that the teacher should have in mind in teaching history is to get the children to like the subject. It is a sad commentary upon much of our teaching that children leave our schools with a dislike for some of the subjects that should be foremost in building character and in furnishing material for mental growth in leisure hours.

2. Relation to other subjects. History is closely related to the other school subjects and in the teaching this relation should be shown. Geographical facts that have a bearing upon historic events should be taught or reviewed when these events are studied. Songs, ballads, poems and other forms of literature that commemorate or describe historic deeds should be brought to the attention of the class at the appropriate time. Besides, this inter-relation of subjects adds interest to the work.

3. Concrete teaching. Other studies, such as arithmetic and geography, are greatly vitalized by the use of concrete material in teaching. Children make actual measurements and work problems based upon data secured. The geography of the immediate neighborhood is studied, and objects of various kinds are brought into the schoolroom to give the children clear ideas of the things they study in books. In history we have also material which aids in giving children clear ideas. As far as possible make use of the following:

a. Anecdotes and stories. Some historical characters seem very real to us because of some stories we have heard told of them.

b. Pictures in textbooks, reference books, and library books. Also special pictures which may be obtained from publishing houses.

c. Good descriptions aid the imagination in picturing the conditions as they existed in the past.

d. Maps and sketches help to show the relative location of places studied. The globe is especially valuable in teaching various phases of world history.

e. Relics are helpful in giving the children ideas of things that are now no longer found in common use. A visit to a museum is very helpful. Occasionally it is possible to secure such material for the use of the school.

f. The old settlers in the community can give information regarding conditions in the early days. Sometimes it is possible to get these persons to give talks to the pupils. At any rate the teacher and pupils can get much interesting and valuable information by asking them questions.

g. Source material. On the township library list are books containing "source material," such as letters and extracts from newspapers and books written long ago.

The use of the above material helps to make history real to the children. Too often the study of history is merely the learning of dry facts from a textbook. Unless the study can be made vital it is of little value.

4. Textbooks. The books used by the children up to the seventh grade should be biographical in their nature, or should be of the story type. Just as a pupil should have had the opportunity to become acquainted with a large number of plants before he begins to study the science of botany, so he should become acquainted with a large number of the world's men and women before he begins the study of organized history. The men and women selected for study must appeal to the children and care should be exercised not to introduce biographical phases beyond the children's comprehension.

In the upper grades a regular history textbook needs to be used as a basis for the study. It should not, however, be followed slavishly. The purpose should not be to master any one text, but rather to train the pupils to study and use history books.

Training institutions should lay emphasis upon familiarizing the students with the best texts and their proper use. Too often the teacher does not know the plan of the author.

5. School library. One of the objects of the history work in school should be to teach the proper use of the school library. A fair mastery of the textbook is necessary in the upper class, but we should remember that the more we can get the pupils to look up historical information for themselves from various books or sources the more successful is our history teaching.

Before the school opens, the teacher should look over the library to ascertain what historical books are at the disposal of the pupils. Whenever a history exercise can be profitably enriched by bringing in material found outside of the textbook, the opportunity should be utilized. Some of the children may be asked to tell these stories, or, if they are short and simple, the stories may be read in the class. Some of the history material makes excellent supplementary reading.

In the bulletin Lessons on the Use of the School Library suggestions are given regarding the use of the library in connection with the study of history. See pages 20; 94–95; 112–119.

6. Time. How much time can be given to the study of history? In a one-room country school the history work below the seventh grade is given in language or reading classes, in general exercises, or in the general reading of library books. In the upper class a year is about all that can be given for the regular study of history, as there are so many other studies whose elements need to be taken up. The problem as to what history instruction shall be given in the advanced class of a one-room country school resolves itself into this proposition: What can with greatest profit be taught in eight months to children from twelve to fourteen years of age?

In some country schools (and in graded schools) more time can be spent on history than in others. The difference, however, should be one of quantity rather than quality. The great essential things should be taught in all elementary schools but in some it is possible to go into greater detail than in others. Those who have more time, however, should be careful not to waste it by dawdling or by introducing material beyond the children's comprehension.

7. Teaching the children to study history is of greater importance than the mere impartation of knowledge. Since time is so limited in the country school, it is especially important that children should be trained to help themselves as much as possible. If the teacher succeeds in training the children to find, use, and organize historic material, the foundation has been laid for history study through life.

a. In the lower classes the children should be trained in the art of story telling. This is one of the important phases of language work. (See pp. 68, 73.)

b. With the power of story telling well developed in the lower grades and with a vast amount of historical material accumulated the pupil is able to enter upon the organization work in the upper class. Here the teacher should spend some of the time working with the pupils in the class organizing the material. With the great characters studied in the lower grades as a basis for the work, the class should now put into outline form the events and topics coming up in their regular history study.

c. Pupils are much helped if the teacher, before taking up a topic or a period, gives them a bird's eye or panoramic view of that topic or period. This helps them to get in proper perspective the large and important events around which they can later group the details.

d. The children should be trained to outline their work as they study. It is well for the pupils to have notebooks in which these outlines may be copied. Such outline books are also valuable for review purposes.

e. The children should be trained in their study to make intelligent use of the globe, maps, sketches and drawings.

f. Frequent summaries and reviews should be given in which the great essential events are emphasized and drilled upon.

g. In studying the constitutional history in the upper class do not take up all the topics usually treated in the textbooks. Much of the political history given in some textbooks ought to be omitted with pupils in the elementary schools. Such study frequently degenerates into mere repetition of words of the book. "How to deal wisely with a few large topics of the constitutional period is the problem of the last part of the grammar school."—McMurry.

h. The social and industrial phases of history should be emphasized in the elementary school rather than the political.

8. General exercises. There are many historical topics coming up during the year which may with profit be taken up with the whole school. Even the smaller children take interest in these exercises and if they are well given they do much to give them a desire to study history. Current events, topics in connection with the great celebrations, and the presentation of some of the great characters in the world history are especially suitable for such exercises.

9. Drill exercise. The following device resembling a mental arithmetic exercise adds interest to the history work and is of some value for review purposes:

Prepare a set of statements like the following, and as each statement is read let the pupil write the name of the person, the place, or the event described:

a. While seeking for youth, the old Spaniard found death.
b. At the bend of the river, like Gibraltar it stands.
c. While others looked eastward, he looked to the west.
d. With a string and a key he brought lightning to earth.
e. On two islands he lived the life of an exile.
f. That bell proclaimed liberty throughout the whole land.
g. Over the ocean three vessels went sailing.
h. A queer looking cheese-box was out in the bay.
i. Such a ship on Lake Michigan had never been seen.
j. The boy saw the giant lift the lid of the kettle.
k. On a muddy road his cloak he spread.
l. The ditch when dug joined lake with river.

The exercise may be varied by having the pupils prepare statements and give them to the class. The device may also be used as a game in the home.

II. COURSE OF STUDY

First and Second Years

The children of the first and second years constitute one group. The work outlined is to be used as material for the language class. (See p. 63.)

"The object of a course in history for the first two grades is to give the child an impression of primitive life and an appreciation of the public holidays."—Report of the Committee of Eight.

In this class practically all the history stories will be told by the teacher and reproduced by the pupils. In preparation for telling a story first read all available accounts of the topic, selecting such facts as are suited to the class. Next outline the facts in a logical way. Under each heading build up a mental picture of persons and situations in the story. To make these pictures clear and vivid refer frequently to things that the pupils have seen or experienced. Use illustrations and sketches. Tell one unit of the story at a time, then stopping to see if the pupils grasp the ideas. Encourage them to ask questions and to suggest reasons and results.

The most valuable feature of this work is the re-telling, or oral reproduction, of the story by the pupils. Insist upon good language, but not upon exact agreement of different pupils' stories in all details. Avoid too much repetition so that pupils tire of it. Avoid interrupting a pupil who is telling a story except quietly to correct the language. Strive for lively presentation, adapting voice, face, and gesture to this end. Give free play to the imagination. Encourage originality in pupils' ideas and expression.

If Holbrook's "Hiawatha Primer" and Fox's "Indian Primer" are in the library, they should be read by the second year pupils.

1. Stories of Indian life. The simpler parts of the following outline may be taken up with this class, leaving the more difficult portions until they get into the next class (third and fourth years).

What was the condition of this country before the white people first came here? Who lived here then? Have the pupils tell what they have heard about the Indians. Are there any Indians in the locality now? If not, are there any Indians anywhere?

How the Indians lived. The Indian home, the wigwam; how made, size, material, comfort. The papoose: how cared for, Indian boys and girls; games, what they were taught. The squaw: appearance, duties at home, in the field. Indian farming: clearing the land, crops raised, methods used. The warrior: appearance, decorations, tomahawk, war dance. The feast, Wampum, pottery, canoe, moccasins. Indian religion. Some Indian legends. The story of Hiawatha.

If possible make a collection of Indian relics to be kept permanently at the school.

Suggestive construction work: drawing, cutting, and making wigwams, bow and arrows, figures of warrior, baskets, pottery, mats, etc.

Are there any Indian mounds in the locality? If so, where? How large are they? What shape? Why do you suppose they were built? What tribe once lived (or lives now) in this locality? What noted chiefs lived in Wisconsin?

It may be possible in some portions of the state to get accounts of Indians from the old settlers. Introduce local history whenever possible.

2. Myths and hero stories. These will be used as the basis of language work. Care should be taken that these are not only good stories, but also good historically. Baldwin's "Fifty famous stories retold" and "Thirty more famous stories" contain excellent material for this work. Look over the school library to see what material is available.

3. Celebrations. To be given just preceding the anniversaries celebrated. This class may join the next class (third and fourth years) while a few of the simpler parts of those pupils' outline are being taken up.

Thanksgiving; Christmas; Lincoln's birthday; Washington's birthday; Memorial Day; Fourth of July.

Third and Fourth Years

The same general method of procedure will be used in this class as in the first class except that the children are now able to do more reading. Besides reading for themselves easy books on history they may also read and tell to the class simple history stories from books of the library. Both the stories the teacher has already told and new ones will appeal to them if their interest is aroused. The teacher should, however, continue to tell most of the stories. The stories outlined for history work will be used as material in the language class. (See pp. 68, 69.)

1. Stories of heroes. Continue the work begun in the previous class. Baldwin's two books and others like them may be used and the stories told in class.

2. Indian life. See outline for previous class. Samoset and Squanto. (See below.) Pocahontas.

3. Celebrations. For a few of the recitation periods this class and the primary class may meet together. The pupils in this group may, however, do more work and get more out of the exercises and for that reason they need also some class periods by themselves.

Do not merely repeat the same facts (about Lincoln, for instance) in each class, but expand the topic if it is taken up a second or third time.

"Public holidays should * * * receive the greatest consideration from the teacher. The entire outline of the second grade should be reproduced, not only in the third grade, but in every subsequent grade; for the spirit that prompts the city, the state or the nation to set aside a day of remembrance should find expression in each grade".—Report of Committee of Eight.

a. Thanksgiving. Story of the Pilgrims. Leaving England. Life in Holland. Off for America. The Mayflower. The landing. Plymouth Rock. Building of homes. Hardships. Samoset. Squanto. Massasoit. Miles Standish. Governor Bradford. John Alden and Priscilla. The first Thanksgiving.

Show pupils all available pictures. Possible construction work: log house, figures in costume, etc.

b. Christmas. In preparation for the Christmas celebration and the story of the Christ child, several stories of Hebrew heroes may be told: Abraham's wanderings, the story of Joseph, the story of Moses, and the story of David.

Bring out the pastoral life of the ancient Hebrews; the great cities, pyramids and the temples of Egypt; the customs that differ from ours.

c. Lincoln's birthday. Story of Lincoln. First home. Ancestors. Moving to Indiana. The log cabin. Abe's mother. His work, education, reading. Incidents of his boyhood and young manhood. Trip to New Orleans. Illinois. Studying to be a lawyer. Made president. His appearance. The great war. His death and character. The great work of Lincoln: Saving the Union; abolishing slavery.

Suggestive constructive work: Log cabin, raft, flat boat.

d. Washington's birthday. Washington's boyhood home, the large plantation, crops, house (compare Lincoln's boyhood surroundings.) Stories of his boyhood, his schooling, his plan for going to sea. Surveyor, life in the woods. His brother's death. Mt. Vernon. Carrying a letter to the French. France and England at war. Braddock. The Revolution. Made president. The great work of Washington: Helping to gain independence; helping to start the government.

e. Memorial Day. Associate this celebration with the Story of Lincoln. Use the Memorial Day annuals. The story of the Civil War may be grouped about the life of Grant. Grant's boyhood, education at West Point. Slavery. Secession. Call for troops. The army. The soldier's life. Great generals: Grant, Sherman, Lee. End of war. Death of Lincoln. Meaning of Memorial Day. What great work did the soldiers do for the country?

f. Flag day. Story of the flag. See Memorial Day annual for 1916.

g. Fourth of July. Discussion may be taken up anytime during the year. Associate with story of Washington great men who were present when Declaration was passed: Jefferson (who wrote it), Hancock and Franklin. See their signatures. Washington himself was not present; he had been chosen commander and had left for the army. Story of Jefferson.

4. Biographical stories (See pp. 48–49).

a. The story of Columbus. As the story is told place outline on board before pupils to aid them in re-telling it. Select portions of his life that appeal especially to children of this age. Make the story graphic and vivid. Read to the pupils Joaquin Miller's poem, "Behind him lay the gray Azores."

b. The story of Raleigh. Queen Elizabeth, settlement in America, potato, tobacco.

c. John Smith. First settlers in Virginia. Kind of people. Hardships. Smith's good work. Pocahontas.

d. The story of Nicolet, the first white man in Wisconsin. Condition before whites came. Indians. Nicolet's boyhood in France. Life among the Indians. Stories of the West. The journey. Landing at Green Bay. Journey through Wisconsin. A tablet has been erected at Neenah in honor of Nicolet.

e. The story of Marquette and Joliet

f. The story of Franklin

Fifth and Sixth Years

The work outlined for this class extends over a period of two years and includes stories and characters from American history and from the history of the world. They need not be taken up in the order given, as chronology is of little importance at this stage. Some of the material suggested should be utilized for language work, some can be gotten in the reading class, but most of it should be used in connection with the general reading of library books. These two years should be "browsing years" for the children and they should read many simple books and thus become acquainted with a great number of characters. The less formal the history work can be made the more likely the children are to form a liking for history. Many children have formed an aversion and even a hatred to the study of history, largely because they were given material unsuited to them in the intermediate classes. (See pp. 39 and 73.)

It is a serious mistake to force a child into the study of formal history too early. Both country and city schools err in this respect. The history books that children use while they are in these grades should not be the ordinary textbooks. (See p. 255.)

It should not be understood from what has been said above that the history work of this class should be slighted or neglected. The work that can be done in the eighth grade depends upon the foundation that has been laid in the previous grades. The children

should be guided in their reading. There should be discussion in the reading and language classes on the books and parts of books read. Short stories and anecdotes should be told to the class or to the whole school so that the great characters of history may become real in the minds of the children. Encourage children to report interesting accounts of historic characters. This concrete material of history creates interest in the subject and develops a liking for the study. The stories and characters with which the children should become acquainted to some extent during these two years are the following:

How America got its name
Discovery of the Pacific Ocean by Balboa
The search for the "Fountain of Youth" by Ponce de Leon
Conquest of Mexico by Cortez
The voyage of Magellan
Discovery of the Mississippi by De Soto
John Cabot, the Italian who worked for England
Drake, Queen Elizabeth's sailor
Raleigh, Queen Elizabeth's favorite courtier
Hudson, the first white man in New York
Champlain, the founder of Quebec
Penn, the wealthy Quaker
King Philip
Peter Stuyvesant, the last Dutch governor
Braddock and the Indians
James Wolfe, the hero of Quebec
The Boston Tea Party (Hancock, Samuel Adams)
Paul Revere's Ride and the Battle of Lexington
Grandmother's story of the Bunker Hill Battle
The Christmas Surprise at Trenton
Valley Forge
John Paul Jones
Capture of Stony Point by Wayne
Marion, the "Swamp Fox"
George Rogers Clark, the hero of Vincennes
Stories of Wisconsin Explorers—La Salle, Hennepin, DuLhut, etc.
Different portions of the state will be interested in different men
Daniel Boone, the pioneer of Kentucky
The story of Lewis and Clark
Whitney and the cotton gin
Perry's victory on Lake Erie
The story of the Star Spangled Banner
Dolly Madison
Fulton and his steamboat
Jackson
Morse and the telegraph
The story of the reaper
Black Hawk
Why Wisconsin is called the "Badger State"
Kit Carson
Chief Oshkosh
Slave catching (in Wisconsin)
The Erie Canal (Clinton's big ditch)
The Monitor and the Merrimac (The Yankee Cheesebox)
Old Abe (The Wisconsin war eagle)
The Atlantic cable
Booker Washington
Dewey, the hero of Manila
The Panama Canal

Stories from other countries

The story of the pyramids
The great Wall of China
Croesus and Solon
Leonidas and the Spartans
Philip and Alexander
The capture of Troy (The wooden horse)
The Parthenon
The Olympic games
The story of Romulus
Horatius at the bridge
The story of Cincinnatus
Julius Caesar
Attila the Hun
Joan of Arc, the girl soldier of Orleans
Alfred the Great
The vikings
Mohammed
William Tell
Robert Bruce
Stories of knighthood
The Crusades
The story of Marco Polo
The invention of printing
Peter the Great, the ship carpenter of Saardam
James Watt, the boy who watched the tea-kettle
George Stephenson
Napoleon
David Livingstone and Stanley

It is hardly to be expected that all the children will have read all the material given in the above list when they enter the seventh grade. At first sight the list may seem unreasonably long. Yet it is often surprising to note what children can read in two years' time if they are encouraged and stimulated in the work and guided in the selection of the material. There are possibly in the library from six to twenty books which have history stories dealing with the above topics. These should be in constant use. If a pupil reads one story each week, he will have read more than sixty stories at the end of the two years. Many of the stories given above are short and can be read in a short time.

It will be noted that stories from other nations are included. These stories form a part of the world's inheritance from past times; the men represent the great and good qualities that arouse enthusiasm; the nations made great achievements that helped make the world what it is today. This history is the background and foundation of American history. Some knowledge of these topics is necessary as a basis for such general reading as intelligent people are expected to do.

In taking up the stories bring out, wherever possible, the condition of the people and the country at the time of the story.

It may be possible that history stories not included in the above list are available to the pupils. The teacher should be free to use such material and encourage the children to call attention to interesting history stories which they may find in their reading at home.

In this connection, see "History—General Reading," page 119, Lesson on the Use of the School Library.

Seventh Year

It is suggested that the study of civil government be taken up in the seventh year and the study of history in the eighth. During the seventh year the pupils may, as far as they have time, continue to read books suggested for the fifth and sixth grades. Scudder's "Life of Washington" would be a good book for them to read both in connection with their study of the federal government and as a preparation for eighth grade history. Biographical stories and historical fiction make good reading in preparation for the advanced work in history. (See also list on p. 44.)

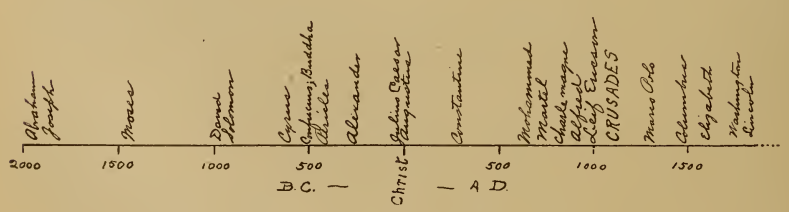
Eighth Year

Recitations. It is suggested that four lessons per week be given during the year leaving the history period on Friday to be used as portion of the time needed for the "school society" mentioned in the civil government and language outlines. The programs of this society should contain some history material, such as telling stories, reporting on books, etc. It may even be possible to have debates occasionally.

Library lessons. During the early part of the school year, teach the following lessons as outlined in the department publication Lessons on the Use of the School Library; Biography—Reference, page 112; History—Reference, page 117. Also act on the suggestions under Biography—General Reading, page 115, and History—General Reading, page 119, of the same publication.

General history. Before taking up the study of American history give the children, if possible, a bird's eye view of the world's history. With the birth of Christ as the great central historic event we reckon dates B. C. and A. D. What year have we now? When did the United States declare its independence? When did Columbus discover America? Name some great men that lived before the time of Columbus. Name some of the great nations.

Draw a line on the board as shown below. Make a mark in the middle to designate the year of the birth of Christ and at different intervals indicate a few of the important events of history.



Lead the pupils to see that the history of the United States is a part of the history of the world.

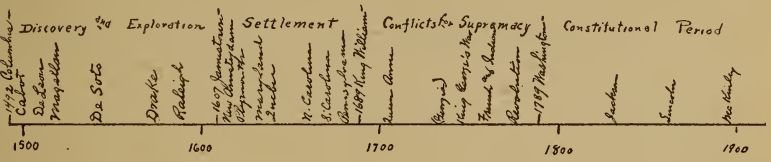
Look over the article (pp. 280–284) giving a brief survey of the world's history up to the time of Columbus. Have the pupils contribute all they can by naming historical characters they have read about in the lower classes. Arrange this material in outline form so that as a result the children will learn the great nations of the past and some of the things they contributed to civilization. Do not go into details; make the great characters and nations prominent.

After presenting a panoramic view of the world's history up to the Modern Age make a brief study of the condition of the world at the time of Columbus. What were the principal nations? Europe's trade with Asia had been cut off when the Turks captured Constantinople in 1453. The products of the East consisted of gold, precious stones, spices, silks, and perfumes. Have pupils trace these trade routes on the globe or map. *To find a route to India* (or the East) was the great problem of the fifteenth century.

What important inventions had recently been made and what bearing did they have upon progress?

American history. The teacher should make a study of the general plan of the textbook and get the author's method of presentation. Read the preface and any suggestions the author has given regarding the use of the book and the teaching of the subject. Study the maps and pictures carefully. (Institutions training teachers should lay special stress upon training teachers in the use of textbooks.)

Present to the pupils an outline showing the periods into which American history can be divided. The following is suggestive:



This scheme divides the history approximately by centuries. The first century is largely one of discovery with a few attempts at settlement. In the second, discovery and exploration continue, especially in the Mississippi Valley (including Wisconsin), but the century is primarily one in which permanent colonies are founded. All of the thirteen colonies are established except Georgia. The struggle for supremacy characterizes the third century, resulting in the victory of England over France, and finally ending with the establishment of American independence. Our constitutional period covers a century and a quarter.

What part of the textbook deals with each period?

1. Period of Discovery. Classify the following according to the countries which they represented: Columbus, Cabot, Ponce de Leon, Balboa, Cortez, Magellan, DeSoto, Drake, Raleigh, Hudson, Champlain. What did each do? Trace routes on globe or map. As a result of these explorations what portions of America did the different nations claim? How did America get its name? Note the Spanish settlements at St. Augustine and Santa Fe.

2. Period of settlement. The great nations explored the new world in the 16th century; in the 17th they founded their colonies which grew until the conflict for supremacy came in the 18th. Where did the Spanish settle? The French? The English? The Dutch? Are any other nationalities mentioned? What people first came to Wisconsin? By what water way? Note the peculiar situation of Wisconsin with reference to accessibility.

Make a list of the English colonies. By what class of people was each of the following settled: Massachusetts, Virginia, Maryland, Pennsylvania, Carolina? In the study of the colonies let this question be the guide: *Where did the settlers come from, who were they, and why did they come?* Emphasize the fact that they brought with them ideas and customs from the old country.

Compare Virginia and Massachusetts as types of the northern and southern colonies. In each of the two colonies find out what the book says about the purpose of settlement; the character of settlers; the occupation of settlers; the size of farms; the ideas regarding education; the principal religion; the growth of slavery.

Rhode Island and Connecticut were settled largely from Massachusetts.

Lay great stress upon why the people left Europe and came to this country. Have the pupils search the textbook for reasons. Lead them to see that the colonial history is closely bound up in European history and that it is impossible to understand American history fully unless we know something of what happened in the mother countries.

Queen Elizabeth died in 1603. She was followed by James I in whose reign "Jamestown" and Plymouth colonies were commenced. In 1625 Charles I became king. His rule was very oppressive to the Puritans who emigrated in large numbers. Hence New England grew very rapidly up to about 1642 when Civil War broke out in England resulting in the victory of the Puritans with Cromwell as their leader. Then came an emigration of *Cavaliers* or *Royalists* to Virginia. For that reason Virginia grew very rapidly up to the time when Charles II was called to the throne in 1660. With the Cavaliers in power again, a large number of Puritans and people of other denominations came to the new country and the result was a large increase in the population of the colonies during the last forty years of the century.

Which one of the thirteen colonies had not been founded by 1700? Name the colonies in order from New Hampshire to South Carolina.

Quebec was the center of French operations. Champlain was the

founder. Few settlements were found in the region of the Great Lakes, but several trading posts and mission stations were established among which were La Pointe (1665) and De Pere (1669) in our own state.

The Dutch colony was taken by the English with very little trouble. Why?

Most textbooks have chapters dealing with the Indians and with colonial life. Discuss them with the class. Have the pupils imagine conditions as they existed in those early days.

By the end of the century the English had founded twelve colonies on the Atlantic slope; the French had explored the St. Lawrence and the Mississippi rivers and the Great Lakes and commenced the establishment of mission stations and trading posts; the Spaniards held Florida, Mexico and the West Indies; the Dutch had lost their colony of New Amsterdam. In the next century the English crossed the mountains where they met the French who claimed the same territory. The result was the French and Indian War.

3. The period of conflict

a. The conflict between the English and the French for supremacy in America.

(1) The English settlements in 1750.

(2) The French settlements in 1750.

(3) Washington's mission to the French.

(4) The objective points. Locate on the map: Louisburg, Quebec, Ticonderoga and Crown Point, Fort Niagara, and Fort Du Quesne.

(5) Braddock's defeat. Wisconsin Indians under Langlade participated in this skirmish.

(6) Capture of Quebec. Describe the city.

(7) Effect of the war. Have pupils be able to trace the boundaries of the French and the English territory as defined by the treaty of 1763. Call attention of the training of American soldiers for the Revolution.

b. The conflict between England and her colonies. The Revolution.

Do not go into detail regarding the causes of the Revolution by studying all the different acts passed by England. In general it was a question of taxes. Great Britain needed money to pay the debts incurred by the war which had been carried on not only in America but in India. She had won in both places and very likely felt a sense of power. She argued also that the colonists ought to pay part of this debt, while the colonists felt they should not. Divide the class into two groups, one to bring out arguments for the British, the other for the American side. Perhaps the most important factor was that the government of England could not appreciate the situation in America. The hardships of pioneer life had developed in the colonists independence of thought and action. They had become resourceful. The attitude of England was to regard the colonists as "subjects" rather than as Englishmen and consequently to treat them as such.

What did the colonies do in the way of uniting? What did they do to prepare for defense? Note the following preliminary events: (a) Boston Massacre. (b) Boston Tea Party. (c) Boston punished. (d) Congress of 1774. (e) Paul Revere's Ride: Lexington and Concord. (f) Congress of 1775. (g) Washington made commander-in-chief. (h) Bunker Hill. (i) Declaration of Independence.

Study the military operations with Washington as the central character. He laid siege to Boston in 1776. He moved to New York, later to Philadelphia and finally to Yorktown. His campaign was carried on principally in and around the three large cities. Study the map.

Three other campaigns should be noted: Burgoyne's campaign in northern New York for the purpose of cutting New England from the rest of the colonies; the campaign in the South under Greene and the partisan leaders; and George Rogers Clark's campaign in the Northwest. The last named is of special interest to us in Wisconsin.

Call attention of the battle of Saratoga as the turning point of the war.

The part that John Paul Jones took in the war should be emphasized as should also that taken by Franklin in securing aid from foreign countries and Robert Morris in securing financial aid for the country.

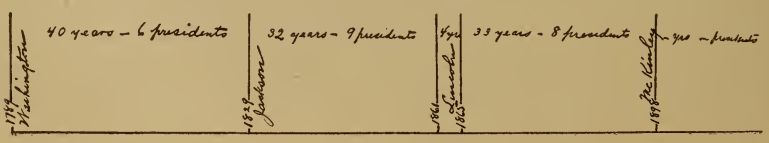
Make a list of the American leaders. The British leaders. Do not spend much time on the "critical period," unless the pupils have more than usual maturity. Much of the material usually given is too difficult for the children of this age, and should be left for the high school. In a general way call attention to the condition of the country and the need for the formation of a strong government. A government had been established under the Articles of Confederation but it was weak. A convention was called in 1787. See suggestions under Civics p. 261. The result was the Constitution. The ratification of the constitution. Two parties. Demonstration in New York City. Spend a few days reviewing the United States government as outlined in the seventh grade.

Another important event of 1787 was the passing of the "Ordinance" organizing the Northwest Territory. Have pupils trace boundaries. Note that part of Minnesota was in this territory, as well as all of Wisconsin.

The portion of the outline given thus far should not take up more than one-third of the time given to the whole subject. At least two-thirds of the time allotted should be given to the constitutional period.

4. Constitutional period

a. Place upon the board a diagram like the following showing the sub-periods into which the constitutional period may be divided.



These dates may be regarded as mile-stones in our history dividing it into periods. Our work shall be to learn about the most important persons living in each period, the great problems these persons helped to solve, and the great events and movements that influenced the country. It shall be our purpose to select for study those characters, those events, and those movements that have had the greatest influence in shaping our history.

Have the pupils master the outline. The reason for selecting 1829 and 1898 as division points will be made clear later.

b. Most textbooks give a chapter on the condition of the country in 1790. Have the pupils read that chapter and discuss its contents. Add other information on the topic. Make use of pictures. Train Children to use the index in looking up topics both in textbooks and in reference books.

c. In each period we shall take up for study the following topics:
(1) The presidents and other important leaders.
(2) Territorial growth.
New acqusitions.
New states admitted.
(3) Inventions and material improvements with the results they brought.
(4) Increase and movements of population.
(5) Great national questions.
(6) Foreign relations.
(7) Development of Wisconsin.

Note. Teachers in training institutions should take up with the students Chapters 1 and 2 in Cubberley's "Rural Life and Education". The four periods of agricultural development and the characteristics of each should be emphasized. Note that these four periods agree quite well with the periods suggested in the outline.

d. **The first period** covers forty years. Note what pages in the textbook are given to this period.

(1) Presidents and other leaders. Make a list of the presidents. How many served one term only? The two Adamses were from Massachusetts, the others from Virginia. Were the Adamses related? Find out about the education of these six men; their occupation.

Make a list of other great leaders besides the presidents, and state briefly why each one is important. Train pupils to glance through a portion of a book for information wanted. Some of this work usually needs to be done in the recitation and is one method of teaching children how to study. The result of this exercise (or study) will be a list of persons together with the important work each did:

Hamilton, the man who worked out the money question; Whitney, the inventor of the cotton-gin; Napoleon, the great French general and emperor; Lewis and Clark (also Pike), western explorers; Fulton, the inventor of the steamboat; Perry, the hero of Lake Erie; Key, the author of the Star-Spangled Banner; Jackson, the Indian fighter and hero of Orleans; Harrison, the hero of Tippecanoe; Clay, Webster and Calhoun, three new leaders in Congress; Clinton, the digger of the "big

ditch;" George Stephenson, the Englishman who invented the locomotive; John Stevens, the builder of the first steam locomotive in America.

(2) Territorial expansion. Trace on the map the boundaries of the United States in 1789. Who were our neighbors?

What additions to our territory were made during the forty years? Read the textbook accounts of each purchase and answer these questions: From what country was the purchase made? Who was president at the time? Why did the other nation wish to sell? What reasons did the United States have for buying? What were the terms?

Trace on the map the boundaries of each purchase. What states and parts of states are included in the purchase?

How many states were there in 1789? Make a drawing of an arch and divide this into 13 sections, 6 on each side of the keystone. Each section represents a state, Pennsylvania being the "Keystone State." Be sure the pupils can name the thirteen states in order.

Make a list of the states admitted to the Union during the 40 years. Arrange them in the order in which they were admitted, giving dates. This work will be referred to later.

Compare the United States in 1789 and in 1829 in regard to area, number of states, and neighbors.

(3) Inventions and improvements. What important inventions were made during this period? Have pupils discuss the influence of each upon the development of the country. When had steam come to be used as power? Have some pupil read about James Watt and report to the class.

Look through the textbook to find what great improvements were made (Erie Canal, National Road). Trace them on the map. How long is the Erie Canal? How wide was it made? How deep? Has it been improved in later years? What influence did these improvements have upon the development of the country?

(4) Population. What was the population of the country in 1790? In 1830? What was the increase and increase per cent? Look through the text and other books to determine if there had been much immigration from foreign countries during this period. Note what the book says about the westward migration during this period. What new factors facilitated this western travel? Why did people go west? Into what states did they go? From what states did they largely migrate? See again the list of states admitted and note the dates. Does your book say anything about the growth of cities? Had Chicago been started?

(5) Great questions:

(a) Providing money for the government. Who was the organizer of the financial system of the country? What position did he hold? Emphasize two ideas: All debts, including that of the States, should be paid in full; the money for the federal government was to be raised by indirect taxation. Explain duties and internal revenue. Omit the National Bank question.

(b) The slavery question: Review the compromises of the constitution regarding slavery. The ordinance of 1787. The effect of the cotton-gin. The Mason and Dixon line, (origin of the term) and the Ohio River became the boundary line between the free states and slave states. How many of the original states were north? South? Have the pupils arrange the states in two columns, north and south, in the order in which they were admitted, thus:

North	South
New Hampshire	Delaware
Massachusetts	Maryland, etc.

Lead them to discover that the two sides are even. Was this an accident or was there a purpose back of it? (Balance of power in the Senate). The admission of Missouri. By what people had Missouri been settled? What was the Compromise?

(c) The question of whether the nation or the states should be supreme. Two parties. What is meant by strict constructionist and loose constructionist?

(6) Our relations to foreign nations. Who were our American neighbors in 1789? In 1829? Take up two topics only: The war of 1812, and the Monroe Doctrine. In connection with the former touch upon European events,—the French Revolution, the rise of Napoleon, his military successes against other nations, the European war which brought in most of the nations, the battle of Waterloo (1815). It was in this conflict between England and France that the United States became involved, because of interference with American commerce. What was the *embargo?* Jefferson and Madison were both for peace but war was declared by Congress. Who were the "War Hawks" in Congress? In what part of the country was the war especially unpopular? Why? Omit all details about the war itself except five units: War about Lake Erie—Perry's victory; war on the ocean; attack on Baltimore and Washington; battle of New Orleans; treaty of Peace.

What part of the new world had been settled and conquered by Spain? During this period nearly all of these colonies revolted and obtained their independence as we did in our Revolution. Other European countries proposed to aid Spain to regain these colonies. Hence, the Monroe Doctrine. Teach that there was no thought of interference by European nations with the United States or her territory. What does the Monroe Doctrine mean today?

(7) Wisconsin. French territory 1634 to 1763. English territory 1763—1783. Treaty of 1783. Ordinance of 1787. No slavery. How many states had been carved out by 1829? What was the status of Wisconsin at that time? Had any portion of the state been settled? Had Milwaukee been founded?

Have a general review of the first period. It is a good practice to have the pupils keep notebooks in which they preserve outlines of the topics as they study them. These outlines are also useful for review purposes.

The following diagram illustrates how a few of the important facts of a period may be gathered together:

1789		1829
827,000	Area	2,000,000
1790 - 4,000,000.	Population	12,800,000 - 1850
13	Number of states	24
Louisiana	Territorial acquisitions	Florida
Whitney, Fulton	Inventors	Stephenson, Stevens
National Road	Improvements -	Erie Canal
Little before 1812	- Immigration -	Considerable after war
Finances, Slavery	Great questions	States or nation
(Treaty Res) War of 1812	Foreign relations	Monroe Doctrine
Part of N. W. Terr. Ord of 1787	Wisconsin	Fur trade

e. The second period covering 32 years. What part of your textbook deals with this period? If Wilson's "Division and Reunion" is found in the library read pp. 2-12. Some of the textbooks also call attention to the fact that a new era was introduced at this time.

Call attention to the fact that it was in this period that many of our grandparents and great grandparents came to Wisconsin. Are there any of the pepole living in the district who can remember conditions in the 50's?

(1) Make a list of the presidents. Which ones died in office? Who succeeded them? Which ones had two terms? How many were there in all? In what ways were these men quite different from the six in the first period?

Make a list of the other leaders, following the form given in the first period. Do not make the list too large. Some of the noted literary characters as Lowell, Whittier, etc. should be included.

(2) Territorial acquisitions. Make a list of them. Have some pupil look up and report on the history of Texas, the "Lone Star State." Why did Texas want to come into the Union? Was there any opposition to receiving her? Why? The Mexican cession. The Gadsden purchase. Terms. In what way were the acquisitions of this period different from those of the preceding period? Have pupils trace boundaries of each acquisition. What states and parts of states are included in each? Importance of these acquisitions.

Take the table suggested on p. 233 above and add to it the states admitted during this period. Notice the alternating order. How many states were there in 1829? In 1850? In 1861? Which number was Wisconsin?

(3) Make a list of the inventions given in the textbook. The inventors should have a large place in history for the reason that through their work man is enabled to subdue nature and use her forces for his advancement. Morse discovered an application of electricity. Review Franklin's discovery. Emphasize especially the importance of the in-

ventions in farm machinery. What inventions had a bearing upon work in the home?

Some important discoveries which affected greatly the development of the country mark this period: Gold, silver, petroleum.

Does your textbook mention anything regarding improvements in transportation during this period? Where were railroads built? What is said about the growth of manufacturing?

(4) Population. Make a table showing the census of the country in 1830, 1840, 1850 and 1860. Note the increase.

This is a great immigration period. When did the first settlers in your district arrive? From where did they come? Was there any special reason why they came at that time?

Look through your textbook (and other books) to find an answer to the question why so many people came to this country during this period.

A fact that should be taught, especially in Wisconsin schools, is that large numbers of Germans came to this state from Germany as a result of the revolution of 1848. Many of these people were especially noted for their enterprise, as they were among the most progressive people in Germany.

Other factors caused many people to leave Europe such as crop failures and oppressive laws.

What does your textbook say about the westward movement of population during this period? Note again the new territory acquired and the new states admitted.

(5) Great questions

(a) Financial questions. Simply refer to the Panics of 1837 and 1857. Do not discuss the tariff bills except the one that brought up the nullification doctrine. (d)

(b) Great change in the management of the government. Spoils system.

(c) Slavery. Have pupils go through the text and note how this question grew in importance. The rise of the abolitionists,—Garrison. Anti-slavery literature, Mrs. Stowe, Whittier, Lowell, Phillips, Acquisition of slave territory. The balance of power in the senate. The compromise of 1850. Kansas-Nebraska struggle. Dred Scott. John Brown.

(d) Secession. The strict and loose constructionists after the constitution was adopted. Calhoun and the nullification. Jackson's attitude. Compromise of 1833. Revival of doctrine in 1860.

(6) Other nations. Have pupils look through the text and make note of events. Emphasize the following: (a) England and the Oregon country. How was the trouble settled? What had been done by the United States in that country? Marcus Whitman. (b) Mexico. The Mexican War. Causes. Three campaigns (do not go into detail). Treaty. (c) Japan. Perry's visit (1854). The treaty.

(7) Wisconsin. See Blue Book for population of Wisconsin in 1840, 1850, 1860. Why is not population for 1830 given? Note the

population by counties given in 1840. Why the great increase between 1840 and 1850? When did the settlers begin to come into your locality? Of what different territories has Wisconsin been a part (Thwaites' "Story of Badger State," p. 156)? When was Wisconsin organized as a territory? What was the first capital? Why? Locate. How did Madison come to be the capital? When was Wisconsin admitted as a state? Who was the first Governor? Why was Wisconsin called "The Badger State?"

Other topics of interest in Wisconsin history during this period: Black Hawk War. Slave catching in Wisconsin. Chief Oshkosh. Read with the class the article—"Our foreign-born citizens" in Stories of the Badger State, pp. 222–229 and point out on the map the different localities mentioned.

Review the second period and also compare it with the first. Do the two stand out in contrast as Wilson suggests in the book referred to? Make statements showing why the year 1829 marks a change in our national history. Have pupils copy these statements into their notebooks.

General suggestion and caution. It should be kept in mind continually that the purpose in teaching history is not merely to have the pupils memorize facts, but to train them to study. Memory tests should be given only on such facts as are essential to the grasp of the large relations of the subject. Many tests should be given to ascertain the pupils' ability to find and to use historical information. Organize the material in outline form with the pupils as the work proceeds. In this way the great essentials will stand out and the relations of events be made clear.

f. The third period.—Civil War. Four years.

(1) Condition of the two sections. Look through the textbook to learn the conditions in the North and the South. What were the resources of each? How were the two sections prepared?

(2) Beginnings. Work out with the pupils from the textbooks the following events in their order: a. Election of Lincoln, November, 1860; b. secession of South Carolina in December; c. secession of six more states; the organization of the Confederate States of America, February, 1861. (Did the South adopt a constitution? What was the capital? Who were president and vice-president?) e. seizure of United States forts, arsenals and public buildings in seceded states; f. inauguration of Lincoln March 4, (call attention to portions of the inaugural address); g. firing upon Fort Sumpter, April 12; h. Lincoln's call for 75,000 troops, April 15; i. organization of the army; j. the secession of four more states; k. removal of the Confederate government to Richmond; l. Bull Run.

(3) Story of the war. Have some form of outline map of the United States before the pupils while the Civil War is being studied. A blackboard outline map is especially usable as places can be located with crayons, campaigns indicated, etc. Make use of maps, sketches and pictures found in the textbook.

Note that the country is divided into two sections by the Appalachian Mountains. Hence there were two different regions in which fighting was carried on,—the East and the West. In the East the fighting took place between, and in the vicinity of, the two capitals, and was restricted to a comparatively small area. How far apart are Washington and Richmond? What kind of country between them? In the West the fighting took place principally along the rivers (Cumberland, Tennessee, Mississippi) and in the vicinity of Chattanooga. Lead the pupils to see the importance of this town.

Teach only the great military movements without going into details. Make the work interesting so that they will read books for themselves outside of class and school. The following outline is suggestive though it may need some modification depending upon the textbook in use;

(a) Look through the textbook to find what plans the North and the South had after they realized that war was a certainty. As the campaigns progress note how these plans succeed or fail.

(b) Where were the two great armies located at the opening of 1862? McClellan commanded in the East and Halleck in the West, though Grant was really the one who achieved results.

(c) Grant took Fort Henry and Fort Donaldson and defeated the Confederates at Pittsburg Landing (Shiloh), thus opening up the two rivers. The Mississippi was opened up from the north as far as Vicksburg and Farragut captured New Orleans from the south. This left Vicksburg (with Port Hudson) to be taken in 1863 and Grant was given the task of taking that stronghold.

(d) In the East the campaign of 1862 was not so successful. The northern army tried to take Richmond and really got within four miles of it but failed. Lee also marched toward Washington but was held back at Antietam. He retreated. McClellan was superseded by Burnside who attacked Lee at Fredericksburg but lost. The command was then given to Hooker. The most important victory in the East during the year was the naval engagement between the Monitor and the Merrimac.

(e) The Emancipation Proclamation. Just what did the issuing of the document mean? What was the effect upon Europe? Were all slaves freed by this act of the president?

(f) The year 1863 turned the tide. Vicksburg surrendered July 4 and Lee was turned back at Gettysburg. Lee had defeated Hooker at Chancellorsville and the southern army crossed the Mason and Dixon line hopeful of victory. Emphasize these two engagements.

Campare Gettysburg with Saratoga.

From Vicksburg Grant went to Chattanooga to take command, arriving there in November. Under him were Sherman, Thomas, Hooker, and Rosecrans. He defeated the Confederates at Lookout Mountain and Missionary Ridge and thus opened the "gate" to the south.

(g) In 1864 Grant was placed in command of the whole Union army and he himself went to Virginia while he left Sherman in charge in Georgia. He carried on a "Hammering Campaign" and continually drove Lee back toward Richmond, after which followed the siege.

Sheridan defeated Early in the Shenandoah and Sherman went "marching through Georgia" thus cutting the South in two once more. Supplies were cut off from Lee's army. What is meant by "sixty miles in latitude, three hundred to the main?" When did Sherman reach Savannah?

(h) Surrender of Lee to Grant at Appomattox. What were the terms?

(i) Assassination of Lincoln.

Have the pupils note the rise of Grant during the war.

Ask the pupils to name what they consider the six most important engagements of the war. Let them justify their answers.

Have the pupils find (see encyclopedia) which of the great generals had experience in the Mexican War. Had any served in the War of 1812?

(4) The Civil War Period according to the outline.

(a) Glance through the textbook and make a list of the great leaders of this period. Include among them Ericsson, Greeley, Farragut, Stanton, and Seward.

(b) Were there any new states added during this period? (Kansas, West Virginia, Nevada.)

(c) What important invention was made? Effect upon naval warfare.

Two important acts were passed during the war which had great influence later on the development of the West. One was the Homestead act of 1862, and the other the granting of tracts of land and loaning money to the Pacific railroad company for the building of railways.

(d) The topic regarding population needs no discussion in this period.

(e) What great national questions were settled by the Civil War? What new questions arose? 1. Reconstruction: How should the seceding states be received back into the Union? 2. The negro problem: What should be the status of the negro politically? What new responsibilities were now put upon the negro race? Were they ready for such responsibility? 3. Financial questions. How was money secured to run the war? How did the South get its money? The debt of the Southern states. (See Fourteenth Amendment.)

(f) Look through the textbook to find the attitude of England toward the North and the South? What was the Trent affair? The Alabama case? Can you find anything relating to the attitude of France? Of Russia?

What was the nature of the trouble in Mexico during this period? How was it settled? What bearing did it have upon the Monroe doctrine?

(g) Read the chapter entitled "Badgers in War Time" in "Stories of the Badger State." Look through the Memorial Day Annual (1914) for the story of Governor Harvey and his wife Cordelia Harvey. Story of "Old Abe." What Wisconsin soldiers do you know who took part in the war? See also pp. 428–429, Blue Book of 1915. What was the total number of soldiers furnished by Wisconsin?

g. The fourth period,—from the Civil War to the Spanish-American War, 1865–1898, 33 years.

The time from the Civil War to the present may be studied as one period if the teacher prefers. The reason for dividing it into two periods is to emphasize the Spanish-American War *which resulted in making the United States a world power.*

(1) The presidents and other leaders: Greeley, Field, Edison, Bell, Eads, Burbank, Babcock, J. J. Hill, Reed, H. M. Stanley, Booker Washington, Clara Barton, etc. Include prominent foreign characters: Queen Victoria, Gladstone, Bismarck, DeLesseps, Pasteur, Marconi, Livingstone, Tolstoi, Diaz, etc. Have the pupils prepare the list.

(2) Territorial acquisitions: Alaska; Hawaii; The Philippines; Porto Rico; Guam; Samoa. Location, area and population of each. How acquired. Terms.

Make a list of the states admitted. What territories still remained in 1898?

(3) Inventions. Look through the textbook to see what inventions are mentioned. Note the most important ones, those that have a special bearing upon national development. This may be called an age of *electrical* development just as the period before the war was a period of *steam* development. Make a list of the principal electrical inventions.

What is given in the text (or library books) regarding agricultural developments? Improvements in farm machinery. What factors contributed? What is said about growth in manufacturing? What important effect did this have? What improvements were made in transportation facilities? Effect of Atlantic cable and Pacific railroad.

Were there any important discoveries made during this period? What effect did they have?

(4) Census of 1860, 1870, 1880, 1890 and 1900. Note growth. In which decade was the increase the most marked? Does your book mention anything about immigration? Did any of your friends come to this country during this period? Were there any special reasons for immigration? What states were settled? What about the growth of cities? Compare the size of Chicago at the time of the great fire in 1871 and the World's Fair in 1893.

(5) National problems

(a) The reconstruction question. An elementary class may learn the following main facts in this period: (1) During and after the war the negroes were given their freedom. (2) They were ignorant and almost helpless; many became lazy and lawless. (3) The Southern States passed laws to control them. (4) Congress interfered to protect the negroes and caused the Fourteenth and Fifteenth Amendments to be adopted, making negroes citizens and voters. (5) In most Southern States the negroes and a few white men got control of the government and ruled most disgracefully, under the protection of the United States troops. (6) Southern white men tried to force them out of power by violence. (7) Finally, when the troops were withdrawn negro rule

ended, and since then negroes have not been allowed to vote in the South. (8) Northerners are now satisfied to allow Southerners to settle their own negro problems. When were all the Southern States readmitted to the Union?

(b) Financial difficulties. Panics of 1873 and 1893. Note that there were two great panics before the war and two after. In each period just twenty years intervened.

(c) The negro problem. Booker Washington and his work.

(d) Other problems. Have pupils look through the text and make note of problems mentioned. Call special attention to capital and labor problems.

(6) Foreign affairs. The Franco-Prussian War in 1871 resulted in the defeat of Napoleon III of France. The German states were organized into the German Empire with William I as emperor. Why is this of interest to us? After a long period of internal dissention the states of Italy were united into one kingdom.

What was the Treaty of Washington and why was it important?

During this period "The Dark Continent" was explored. (Livingstone had gone to Africa as early as 1840). In what way was this of importance to us? What discoveries were made? Note that the continent of Africa had the same experience in the last half of the 19th century that America had in the 17th. What nations have secured parts of Africa. See map.

What important events happened in China during this period?

Though it is impossible to dwell on these foreign events to any extent it is well to mention them so that the children may be conscious of the relation of world history to our own.

(7) Development of Wisconsin. Who were some of our leaders? What industries were developed? Note the increase in population from decade to decade. Progress in education. Establishment of High Schools. Growth of the Agricultural College.

h. The last period—from the Spanish-American War to the present time.

In studying this period have pupils note especially the great problems that are before the country today and have them become acquainted with the great leaders. Emphasize the truth that the solution of these problems is in the hands of the people and that it is of great importance that the people be trained to think about them.

(1) Who are the great leaders in this period? Include industral (especially agricultural) leaders, educational leaders, inventors and writers as well as political leaders.

(2) What territory was acquired? How did we get it and why? What states have been admitted since the Spanish War? Are there any territories at the present time?

(3) Inventions, improvements, etc. Effect of the introduction of the gasoline engine. What machinery have we as a result? The transmission of electrical power to distant points. Harnessing the water power. Farm machinery. Mechanical devices for making house work easier. Concrete building material.

The Panama Canal. How long is it? When was it built? How long did it take? What did it cost? How is it managed? What kind of ships go through it? Effect upon commerce.

The Pacific cable. Through American effort the world was girdled by a wire.

Wireless telegraphy and telephony, moving pictures, color photography, etc. Have pupils make a list of the important inventions of the twentieth century. Here is an excellent opportunity in training them to look up topics to secure information. Many of these topics make excellent material for literary society programs.

(4) What is the population of the United States at the present time? The area? Have immigrants been coming to this country the last twenty years? From what countries have they come? Has there been a westward movement of the population? Growth of cities. At the present time do more people live in cities or in country communities? How was the condition formerly?

(5) Great questions. Impress upon the pupils that they will have a share in the solution of these problems. Have the pupils make a list of problems that they consider of importance. Encourage them to contribute to this discussion.

Among the problems which may be brought up are the following: (a) Education: Are all people getting the education they need? (b) Health: Can health conditions be improved? How? (c) Conservation: Forests, water-power, mines, health, life. (d) Capital and labor. (e) Regulation of corporations. (f) Ownership and control of monopolies. (g) Roads. (h) Liquor traffic. (i) Woman suffrage. (j) Amusements and recreation. (k) Equitable taxation. (l) International relations, etc.

The discussion of these topics is, of course, beyond the ability of the children but it is well to call attention to their existence so that they may keep them in mind as they grow up.

(6) Foreign relations. The twentieth century has seen some great developments in international affairs. The Russo-Japanese War had a marked effect upon both countries participating. What change has taken place in the government of Russia? Standing of Japan as a power. What changes have taken place in the Chinese government?

What effects did the Spanish-American War have upon our country? What is our relation to Cuba?

The Mexican situation. Who have been the principal characters in the struggle? Two important questions involved are the land question and the question of education. Lands are owned by the wealthy. The illiteracy of the country is very high.

The European War. What nations have participated in the conflict? In what way does this war differ from previous wars?

What does your textbook say about the Hague Tribunal? Has our country made use of this court?

(7) Wisconsin progress in the twentieth century. Who are our leaders? Give a prominent place to industrial (especially agricultural)

leaders. Have pupils name persons in their own communities who are doing things that contribute to progress. Make a list of prominent farmers that have a state reputation.

In what industries and products does our state rank high? The Babcock tester. Wisconsin as a stock state; as a seed grain state. (See also p. 183.)

How many cities in Wisconsin have a population exceeding 20,000? How many miles of railroad are there in our state? (See railroad map.) Can you name any large electric power plants from which power is transmitted to distant parts? (Kilbourn, St. Croix Falls, Red Cedar Falls, White River, Florence, High Falls, Porterfield, Quinsec Falls, Prairie du Sac, Hatfield, Wissota.)

Educational facilities in Wisconsin. Growth of State Graded Schools. Special courses in High Schools (agriculture, domestic science). Improvements in country schools. Rise of County Training Schools for teachers. Increased facilities for higher education.

III. SPECIAL TOPIC

The following brief article embodying the principal essentials of general history is given to aid teachers in presenting to the children in a systematic way the great events of the world's history previous to the discovery of America.

A Summary of the World's History up to the Discovery of America

Find on the globe the Nile River in Africa, and the Euphrates and Tigris Rivers in Asia. Note the general location and courses of these rivers. In these two river valleys were found the world's two first great civilizations.

1. Egypt. Egypt has been called "The Gift of the Nile." This country consists of the narrow flood plain and the delta of the Nile River. On either side is a vast desert. Because of the dry climate many of the works of the old Egyptians have been preserved, among which are pyramids. These large structures were used as burial places for the kings and were built many centuries before Joseph was sold into this land by his brethren. The Egyptians had mastered the art of embalming and as a result bodies of persons living thousands of years ago are in fair state of preservation and can be seen in museums. Besides its massive architecture Egypt has given to the world contributions in astronomy, geometry, and medicine. The rulers were called Pharaohs. One of the most noted characters was Rameses II, who lived about 1300 B. C.

2. Assyria and Babylonia. Note on the map the country drained by the Euphrates and the Tigris. This is a large valley and in it we find in ancient times the great nations of Assyria, Chaldea, and Babylonia. The name Mesopotamia also occurs, which is a Greek word meaning "the land between the rivers." Assyria was the northern or upper part of the valley, while Babylonia occupied the lower part. Both of these nations were powerful but finally Babylonia became su-

preme and for a short perod was a world empire. The greatest historic character was Nebuchadnezzar, who lived about 600 B. C. The empire fell with the conquest of Babylon by Cyrus the Persian in 538.

Our knowledge of these countries has been obtained largely through excavations of the ruins. There were large temples and palaces, and at Nineveh there was a large royal library. The "hanging gardens of Babylon," and the pyramids of Egypt are among the great wonders of the ancient world. From the Babylonians we have contributions in astronomy and mathematics.

3. Media and Persia. To the east of the Tigris valley lies the Plateau of Iran. On this tableland there lived in the early days two classes of people, the Persians in the south and the Medes in the more hilly regions of the northern part. At first Media was the leading power but the whole plateau early came under the power of Cyrus the Great. In the preceding paragraph reference is made to his further conquest of Babylon. He extended his conquests until Persia became a world power and extended from the Indus River to Europe including the country of Lydia of which Croesus was at that time king. Other noted kings of this vast empire were Darius I and his son Xerxes. After the death of the latter the empire declined until under Darius III it was overthrown by Alexander the Great at the Battle of Arbela in 331 B. C.

Sometime before Cyrus there lived in Persia a man named Zoroaster who was a great religious leader. His system is gizen in the Zend Avesta the sacred book of the Persians. The early architecture of the Persians was simple in contrast to that of the Babylonians, but the later monarchs gave themselves over to lives of extravagance and luxury.

4. Judea and Phoenicia. Between the mighty empire of the East and Egypt lies a little country no larger than that part of Wisconsin lying between Milwaukee and Green Bay and extending as far from Lake Michigan as the city of Oshkosh. This is Judea, or Palestine. Although it is small, this country has had a great influence on the history of the whole world, for it is here that both Judaism and Christianity have their origin.

About 4000 years ago Abraham, the father of the Jewish people, left his home in Ur of the Chaldees and made his home among the tribes of Canaan. His grandson Jacob, the third "patriarch," moved to Egypt because of the famine in the land. Joseph, the son of Jacob, had been sold by his brethren and had been taken to the land of the Pharaoh, where he had arisen to power. After 400 years the descendants of Jacob were led "out of bondage" by Moses and taken to the Promised Land which was conquered under the leadership of Joshua. On the journey the people received the law which is embodied in the Ten Commandments. The tribes were afterwards united under a king. The two greatest kings were David and Solomon, who ruled about 1000 B. C. Solomon's temple was one of the great architectural accomplishments of the East.

It was in the village of Bethlehem that Jesus Christ was born. At that time Judea was under the rule of Rome and Augustus was emperor. Jerusalem was the great religious center of the Jews, who used to assemble there at the great festivals. The city was destroyed by Titus, the Roman general in the year 70 A. D.

Note especially the fortunate location of Judea as a country for spreading ideas.

To the north of Judea extending along the coast between the Lebanon Mountains and the Mediterranean Sea lay the ancient country of Phoenicia. This was the principal sea-faring nation of the ancient world. The "cedars of Lebanon" were used in the construction of

ships. The Phoenicians sailed to all parts of the Mediterranean Sea and even went as far as England where they bought tin. Tyre and Sidon were the two important cities. Colonies were established among which was Carthage, the great rival of Rome. Being a maritime nation Phoenicia did much to disseminate knowledge among different countries. The Phoenicians introduced the art of alphabet writing.

5. China and Japan. Very little of importance has been given us regarding the early history of these two nations. They have followed a policy of self-exclusion and mingled little with the nations to the west. Their educational tendencies were to worship the past and all new departures in thought and action were looked upon with disfavor. In the third century B. C., the celegrated Chinese Wall was built to protect the country from the invasion of the Huns on the north. Compare the length of this wall with the distance from New York to Chicago.

About 500 B. C. there lived in China a great teacher who has had a great influence on the people of the East. This man was Confucius. His golden rule was "What you do not want done to yourself, do not do to others."

It is of interest to know that the art of printing by means of blocks was first used in China. Writing was used at a very early date. Gunpowder is also an invention of the Chinese.

6. India. At the time that Confucius lived in China there lived a man in India known by the name of Buddha. He was the founder of Buddhism, one of the great religions of the world. This religion was a revolt against Brahmanism, another form of religion of India. Brahmanism is at the root of the caste system.

7. Greece. In the southern part of Europe is the little country of Greece, which is a little smaller than Wisconsin. Note that the shore line is deeply indented by bays and harbors. The surface of the country is hilly. In the olden days this small country was divided into many small states each of which had charge of its own government. Sparta and Athens were two of the most noted of them, though each was a city.

One of the most noted characters of ancient Greece is the poet Homer. His poems, the Iliad and the Odyssey, have been read by all civilized nations and are among the world's most noted literature.

Greece is noted especially for the many beautiful things it has given to civilization. In physical training, in sculpture, in architecture, and in literature this nation stands out prominently. The Olympian games were held every fourth year and these contests had a great influence in developing health and strength in the people. Contests were also held in oratory, poetry and history. As a result of this training the Greeks began to excel in all these arts. Among its noted men were the philosophers Socrates, Plato, and Aristotle; the historians Herodotus, Thucydides and Xenophon; the sculptor Phidias; the father of medicine Hippocrates; the dramatists Aeschylus, Sophocles and Euripides, the orator Demosthenes. The highest degree of perfection in these arts was reached during the "golden age of Prices" in the fifth century B. C.

Greece was threatened by the Empire of Persia and wars between the two countries were fought. Grecian civilization was saved to the world by the victory at Marathon 490 B. C. It was in one of these wars that the 300 Spartans won their fame at the Pass of Thermopylae (480 B. C.). Under the leadership of Alexander the Great the Persians were completely defeated, as well as the other nations—Egypt, Phoenicia—and Greece became a world empire extending from the Indus to the Adriatic. Alexander died in 323 at the age of 32, a victim to

drunkenness. His kingdom was at first divided into four parts and later broken up into many small fragments, but all parts were finally conquered by Rome.

8. Rome. From 753 B. C. to 476 A. D., a period of 1229 years—this is the span of Roman history. It is supposed that it was in 753 B. C. that Romulus, the first king founded the city known as the "city of the seven hills," the city which became the mistress of the world, and it was in the year 476 A. D., the last Roman emperor Romulus Augustulus ("the little Augustus") a child six years of age, was deposed and the power passed into the hands of Odoacer, the chief of a German tribe. It is interesting to note that this great nation began and ended with a man named Romulus as ruler.

The early history of Rome, like that of the other nations of the ancient world, is legendary. The religion of the early Romans was much like that of the Greeks except that the deities were given different names, Jupiter taking the plac of Zeus, Juno of Hera, Neptune of Poseidon, etc. Previous to 509 Rome was ruled by kings, but from that year to the formation of the empire with Augustus at the head, the nation was known as a republic.

Rome conquered the other nations of the world, including her great rival Carthage, and made herself the ruler, but in doing so she absorbed the good things those nations had developed and passed them on to the other nations of the West. She was a nation of great military power and gave to the world a great object lesson in organization of government. Greek education and culture still continued to influence the world and these were passed on and added to by the Romans, but the Romans are especially noted in history for their contribution to law.

The climax of Roman domination was reached under the famous leader Julius Caesar whose conquests extended from Britian to the far East. He was assassinated in 44 B. C., and a few years afterwards Augustus became the emperor. The reign of the latter, (from 31 B. C. to 14 A. D.) may be compared to the "Age of Pericles" in Greek history and it was during this period that Rome was especially active in art and literature. Augustus said, "I found Rome a city of brick; I leave it a city of marble." Vergil, the writer of The Aeneid, lived during this period. It was also during the reign of Augustus that Jesus Christ was born. Christianity spread gradually in spite of persecution until it was made the religion of the court by Constantine the Great in the fourth century.

9. The Middle Ages. The period extending from the fall of Rome in 476 A. D., to the discovery of America by Columbus in 1492 is known as the Middle Ages. In contrast to this period, the time after the discovery of America is called the Modern Age.

The great Roman Empire was weakened because of internal degeneration. For this reason it fell a prey to the sturdy northern tribes. It was invaded three times before its final fall—by the Goths under Alaric in 410, by the Huns under Attila in 451, and by the Vandals under Genseric in 455. Though Rome as a nation fell in 476, its accumulated civilization was not lost, but was transmitted to the nations that followed.

The Middle Ages may be divided into two parts, the Dark Ages and the Age of Revival. The former is the time of beginnings and is characterized by great migrations. The latter is known as the Renaissance and is noted for the great awakening due to a revival of learning. The first of these periods blends gradually into the second.

a. Dark ages. Three of the most conspicuous characters during the Dark Ages were the following:

(1) **Mohammed,** who in 622 began a movement that resulted in the founding of one of the world's great religions. The Arabs followed his leadership and proceeded to conquer the world with the sword. They took Egypt, pressed on through the Barbary States, landed in Spain, crossed the Pyrenees into France, sweeping everything before them until they were met by the Christians under Charles Martel (The "Hammer") and defeated in the Battle of Tours in 732, just 100 years after Mohammed's death. The Cross triumphed over the Crescent and as a result the Teuton and not the Arab became the master in Europe. Many of the Moslems, however, remained in Spain where they were known as Moors. Their capital city, Granada, was finally taken in 1492.

(2) **Charlemagne,** or Charles the Great, who was crowned emperor of the Holy Roman Empire on Christmas Day, 800. This was one of the most important events of the Middle Ages, as it was in a way the restoration of the old empire. During the forty-five years of his reign this great man not only reunited the fragments of the Western Empire but did much for the cause of education. His successor was a weak ruler and the result was that his empire was divided into three parts at the Treaty of Verdun in 843. These three divisions correspond roughly to the present countries of Germany, France and Italy.

(3) **Alfred the Great** of England, who stands out prominently not only as an organizer of the nation, but also as a writer and a promoter of education and Christianity. He lived about a century after Charlemagne.

b. The Age of Revival was ushered in by great religious military expedition known as the *Crusades.* During the 11th, 12th and 13th centuries large numbers of Christian people in the West were enlisted in a movement to rescue The Holy Land from the Mohammedans. There were nine of these crusades, one being known as "The Children's Crusade." Because of these expeditions thousands of western people became acquainted with the East, and as a result knowledge was spread. Commerce was established with the Orient and several European cities, notably Genoa and Venice, became famous for their extensive commerce.

The study of the ancient classics which had been abandoned to a great extent during the Dark Ages, was resumed. There was also a great revival in art and the period resembles the "Age of Pericles" in ancient Greece. Among the great artists were Raphael, Michael Angelo, Titian, and Correggio. Their paintings were based largely upon religious subjects.

The art of printing was invented about the middle of the fifteenth century. As a result it became much easier to receive knowledge and to spread it. The invention of the compass opened up new possibilities in navigation.

With the introduction of gunpowder a great change came over Europe. The method of warfare was revolutionized, the armored knight gave place to the soldier with the gun and the age of knighthood and chivalry came to an end.

Among the great characters who lived during the Age of Revival were the following:

(1) The great painters already mentioned.
(2) Marco Polo, the great Asiatic traveler.
(3) Prince Henry, the Navigator.
(4) Arnold Winkelried, the Swiss patriot.
(5) Wallace and Bruce, the Scotch heroes.
(6) Joan of Arc, the girl soldier of Orleans.
(7) Wyclif of England, and Hus of Bohemia, two great religious leaders.

Genghis Khan, the great Mongol leader.

IV. TESTS AND EXAMINATIONS

When a pupil has finished the common school he should be able to pass, with a good standing, an examination or test based upon the following standard:

1. A general knowledge of the great nations of ancient and medieval history and the most conspicuous characters and events of the world's history previous to the discovery of America as set forth in the article in III. The pupils should be able to tell a number of stories about some of these characters and show a great familiarity with the library books in which such stories are found. Questions based on this phase of the history should be carefully formulated so that they may not call for knowledge that could not be expected of pupils of elementary school age.

2. A general knowledge of the discoverers and explorers listed in the course of study. Details of voyages, etc., should not be expected in the answers.

3. A general knowledge of the thirteen colonies. Pupils should be able to name them in order. They should have a general knowledge of a few of the conspicuous leaders and the importance of the work they did. They should also be able to give something concerning the life of the people in these early days. Emphasis shuld be laid upon Virginia and Massachusetts.

4. A general knowledge of the work of the French in the St. Lawrence and Mississippi Valleys, especially a knowledge of the early characters in Wisconsin history.

5. A general knowledge of the struggle between the French and the English for supremacy in America. Details should not be required. The leaders should be made prominent,—Washington, Braddock, Pitt, Montcalm and Wolfe.

6. A general knowledge of the Revolution with its leaders and principal events. Emphasis should be laid upon the matter given in the outline. Details should not be asked for in an examination.

7. A knowledge of the constitutional convention and the ordinance of 1787. The compromises of the constitution may be asked for although that topic was specifically outlined in the civil government course.

8. A knowledge of the most important characters and events of the constitutional period as indicated in the outline. Insignificant events should not be asked for. To do so is to place emphasis on non-essentials. Too much emphasis should not be laid upon purely political questions. Let the industrial and social phases stand out prominently.

9. A general knowledge of the important current events, especially those relating to industrial development.

10. A knowledge of some of the most important leaders of the present time and the work they are doing. This should include local leaders as well as those of national and international reputation.

Note: By "general knowledge" is not meant the ability to make a few unrelated statements about a subject, but rather a definite knowledge regarding the *great things* a person has done, a definite knowledge regarding the *results of an event.*

11. In addition to the examination given to test the pupil's ready knowledge of history there should be given a test to ascertain his ability to find and use historical material. Questions may be given each pupil with the instruction to get the answer from any source whatever, —books, other persons, etc. The time in which these questions are to be worked out may vary with the difficulty of the questions. The following are suggestive:

a. Find the rate per cent of increase in the population of the United States during each of the decades from 1790 to 1910. What is the average rate? At the same rate of increase what would the population of the country be in 1950? In 2000?

b. Find the following information regarding the Suez and Panama Canals: Length, nature of the country through which they pass, when constructed, time of construction, cost, locks, how managed, etc.

c. Who have been emperors of Germany since the formation of the German Empire in 1871?

Tests of the above can easily be given by the teacher by assigning topics. The training given the pupils in getting information necessary to answer questions like the above is of great value.

It is perhaps difficult for the county superintendent to invent methods by which this power can be tested. Questions for this purpose might be sent to the schools some time before the examination and given to the pupils to work out and bring to the examination in the same way that local district maps have been prepared in some counties.

V. REFERENCES

1. **References for teachers and institutions training teachers**

Charters. Teaching the common branches, p. 241–65. (T)
Cubberley. Rural life and education, chapters 1–2. Houghton.
Hart. Formation of the union. (T)
Kendall & Mirick. How to teach the fundamental branches, p. 253–65. Houghton.
List of books for township libraries. Issued by the State Superintendent, Madison, Wis.
McMurry. Handbook of practice for teachers, p. 118–29. Macmillan.
McMurry. Special method in history. Macmillan.
Rice. Lessons on the use of the school library, p. 20, 74, 112–19, Issued by the State Superintendent, Madison, Wis.
State reading circle board. Bulletin on teachers' and young people's reading circles. Gives list of books for history and biography reading in the different grades. State Reading Circle Board, Madison, Wis.
Wilson. Division and reunion. (T)

2. **References for teachers and pupils**

Champlin. Cyclopedia of persons and places. Teach them to use this reference book and any other encyclopedia to which they may have access.
Blue book
Memorial day annuals

A textbook or two different from the regular text used by the class. It is a good plan to get children familiar with at least one text besides their own. This also trains them in studying topics. Teach the children to use indexes.

Books in the library dealing with biography, history, and historical fiction. In selecting the library books care should be taken to get some of the best and most usable books for the history work. For a list of suitable books the teacher is referred to the township library itself (and to the reading circle list). A brief summary is given with each title. There are so many good books dealing with the lives of great men that it is not practicable to give an extended list here. A few books are, however, suggested for reference work and general reading:

Andrews. Ten Boys. (T)
Baldwin. Fifty famous stories retold. (T)
Baldwin. Thirty more famous stories retold. (T)
Baldwin. Stories of the East. (T)
Bourne & Benton. Introductory American History. (T)
Eggleston. A first book in American history. (T)
Gordy. American beginnings in Europe. (T)
Gordy. American leaders and heroes. (T)
Kittle. Freedom vs. slavery. (T)
MacCoun. An historical geography. (T)
Mace. Lincoln, the man of the people. (T)
McMurry. Pioneers of the Mississippi Valley. (T)
Mowry. First steps in the history of our country. (T)
Niver. Great names and nations (Ancient). (T)
Niver. Great names and nations (Modern). (T)
Scudder. George Washington. (T)
Starr. American Indians. (T)
Stone and Fickett. Days and deeds a hundred years ago. (T)
Tappan. American hero stories. (T)
Thwaites. Stories of the Badger State. (T)

CIVIL GOVERNMENT

1. GENERAL SUGGESTIONS

1. The general plant of this Course of Study is that there shall be a separate civil government class in the seventh grade and a separate history class in the eighth grade.

2. Much of the civil government work should be done in general exercises with the whole school. Even the smaller children are kept interested in what is going on in the work and the entire school is kept alert and interested in current events. There should perhaps be at least one such exercise per week, taken up at the time the event occurs (the meeting of the county board in November for example). In some instances it may be necessary to continue one line of work for general exercises during several consecutive days.

3. Some of the textbooks used in the elementary school contain too much material and are too difficult for the children of that grade. As a result of textbook teaching, the children often tire of the subject and get very little out of it. To interest children in a subject, to get them to like it and to want to know more about it is the true measure of success in teaching. For this reason the textbook should be simple, well written, and within comprehension of the children. Portions that are beyond the understanding of the children, and portions that are not of material importance to the ordinary citizen should be omitted.

4. The general purpose of the work in this subject is to aid pupils to understand the necessity for government, and to arouse interest in the operations of government. Emphasize the fact that *the pupils are citizens and so should take an intelligent interest in the affairs of government.*

5. There are certain fundamental facts regarding our government that should be taught thoroughly. *These should be drilled upon*, like the essential facts in arithmetic, until they are well-known. There are many other facts which the pupil should be taught to find for himself by using the Constitution, the Blue Book, and other sources of reference. One prime object to be attained in teaching this subject is to train the pupil to find and to use available reference material.

For suggestive lessons on the use of the Blue Book see p. 55, Lessons

on the Use of the School Library. Other suggestive lessons on civic material are given on pages 79–92 and 95–6. Especially give the pupils training in the proper use of the newspaper.

6. Approach the government of each political division in this way: (a) What things need to be done? (b) What meetings and officers are provided to do these things? (c) Is the work well done? (d) How can private citizens help to have good government? The functions of officers can be illustrated by reference to methods used by boys and girls in their games and societies; the selection of captain, umpire, treasurer, etc. The same officers can be seen in church societies, lodges, and other similar organizations. Make reference to these well known facts.

7. The ethical bearings of these subjects should receive constant emphasis. Show how some men and women give freely of their time and effort to public service; how poor work and waste in public business hurts every member of a community; how misuse of time or money belonging to the public is stealing; how public property ought to be cared for. The work may be correlated with geography at some points and also with language.

8. In order to be an efficient teacher of civil government it is necessary to know the civic operations from direct observation. Those who have in charge the training of teachers should take their classes to the court house and other places when and where civic functions can be observed. The officers will show the students just how things are done and as a result both the understanding and the memory will be aided. Studying civil government from books only, is an entirely inadequate method of *learning* the subject.

Teachers will find it advisable to call upon county officers, town officers, and other persons who are in the public service and learn from them *how things are done.* In some instances it may be possible to take the children on an excursion to see public buildings and to meet public officials. All teaching should, as far as possible, be based upon what the pupils have learned from direct observation.

9. The children should become familiar with the State and Federal Constitutions in order that they may be able to turn to them to find answers to questions.

10. Teachers should become thoroughly acquainted with the contents of the textbook and also familiar with the civics reference material contained in the library. The County Board Proceedings and Blue Book may be had free. Look over the list of civil government books on the Township Library list to determine if there are any books named that ought to be added to the library.

11. If possible, there should be organized in every school a literary society, or club, to meet weekly or bi-weekly on Fridays after recess. Through these meetings the pupils should be taught the elements of

parliamentary practice and they should also give short programs which they have been largely instrumental in preparing. The training received in such a society is invaluable and the meetings furnish a motive for much of their regular school work especially language and civics. It is the duty of the school as far as possible to give the children the training that will prepare them for the duties of life. To give them the ability to participate intelligently in public discussions is certainly one of the most important phases of instruction.

12. The management of the *school itself* is the most vital phase of civic instruction. To attend a school where order and organization prevail is in itself a training in good citizenship. A teacher who is securing the cooperation of the pupils in the management of the school is continually developing in the children the right attitude toward society. He is training citizens. On the other hand, a teacher who has poor order, who permits the children to do as they please is an example and an influence that tends to undermine society and government no matter what may be the merit of the information he imparts in the regular civil government class.

II. COURSE OF STUDY

1. General exercises. The following suggestive material is given to aid teachers in preparing and conducting general exercises on civic topics. Superintendents should insist that such portions as are appropriate be given in the schools and it may be well for them occasionally to conduct such exercises when they visit schools.

a. Primary election. Get sample ballots or use ballots published in the papers. Each party *nominates* its candidates. A person can vote only for candidates of *one party*. He makes his choice of one person for each office on his party ticket. Before the primary election system was adopted, each party had its conventions to nominate candidates for office. The people held *caucuses* and elected delegates to these conventions. The primary election law was passed in 1907. The primary election is held the first Tuesday in September in the even numbered years. Who can vote at an election?

b. General election. Find out from some voter how the election is managed, the number of ballot clerks, election inspectors, etc. Get sample ballots and have the children look them over. Teach method of marking. Near the close of the day the little children may, if necessary, be dismissed early, and the larger ones conduct an election. Discuss with the children the parts of the ticket,—county, state and national. Take each office in turn and discuss the work connected with that office. When will the term for each official commence? What is the length of his term? The general election in Wisconsin is held on the Tuesday after the first Monday in November in the even numbered years.

The inauguration of the state officers is held the first Monday in January. At that time give a general exercise on that topic.

c. County board meeting. Regular meeting begins the Tuesday next succeeding the second Monday in November each year. If special meetings are called, call attention to them at the time they are held and discuss the purposes for which they are called. Who are the members of the county board? Who represents the town (or village or city)? Note the list of members of the board published in the local paper. Call attention to the fact that the county board is a *representative* body. Have map of county before the school.

Where does your county board meet? Who is chairman? What are his duties? Note the committees. Why have committees? Do the boards consist of the same number of members in each county? Why? Note from the local paper some of the business done by your county board. When are the members of the county board elected? For what term? How much tax is levied by your board this year? (This can be answered when the proceedings are published.) How long is your board in session?

d. Thanksgiving day. Read the proclamations issued by the President and by the Governor. The custom of having a day of public thanksgiving is an old one and was in vogue among the Greeks, the Romans, and the Hebrews. Take up with the two lower classes, as language work, the story of the first Thanksgiving in New England.

e. Congress convenes at 12 o'clock noon on the first Monday in December every year. Call attention to this event at *11 o'clock* and manage to hold a general exercise at that time. When it is 12 o'clock at Washington it is 11 o'clock in Wisconsin. Why? Each Congress lasts two years and holds two regular sessions,—a long and a short. In what years are the short sessions held? Why? The Congresses are numbered. The first Congress began its work in 1789 and finished in 1791. The Congress from 1889—1891 was the 51st and the one from 1915—1917 is the 64th. In December, 1916, have on the board this statement: The second (or short) session of the 64th Congress begins its session at 12 o'clock noon, Monday, Dec. 4, 1916. This session will close at 12 o'clock noon, March 4, 1917. Why?

Who is your representative in the House? If possible, show a picture of the room in which the representatives meet. How many representatives has Wisconsin? Which state has the largest number? Are there any states that have only one? Why? What is the total number in the House? On what is the number of representatives from any state based? Who is the presiding officer? What are his duties? What is the annual salary of a representative?

Who are the senators from Wisconsin? How many in the Senate room when all the members are present? Show picture of Senate chamber, if possible. Who presides? Is he privileged to vote?

The president's message is published. Show it to the school. Did the president read it or did he send it to be read? Was it read to the two houses separately or were they together?

Call attention from time to time to important measures before Congress.

f. Payment of taxes. Taxes are usually paid in January. To whom are the taxes paid? Sometimes local papers state that the town treasurer will be at certain places on given days to receive taxes. Part of the money paid goes to the support of the school, part to pay the expenditures of the town, part to the county and part to the state. What is a *direct* tax? Do we pay direct taxes to the United States government? If not, how does the federal government get money? What is a tax receipt? The town clerk makes out the tax roll and gives it to the town treasurer who does the collecting. The advanced arithmetic and civic classes should ascertain the amount raised by the town and the tax rate.

g. The legislature meets in regular session at noon on the second Wednesday of January every odd numbered year. Election of speaker. What are his duties? Lieutenant governor president of Senate. Appointment of committees as in the case of the county board. The governor's message. Important bills mentioned from time to time. Who is your assemblyman? Your senator? How many members are there in each house of the legislature?

h. Washington's birthday. Many incidents from the life of Washington can be mentioned in connection with the language work and general exercises. Give one exercise to the whole school on "Washington in the Constitutional Convention". Write on the board the list of the signers of the constitution. Call attention to well-known characters such as Franklin, Robert Morris, Madison, and Hamilton. Washington was presiding officer. Madison kept record of the proceedings and this record has been published. (It is of interest to know that most of the streets in the vicinity of the Capitol at Madison are named after the signers of the Constitution.) For four months these men worked in Philadelphia during the summer of 1787 and the result of their labors is our federal Constitution, the supreme law of the land. Incidentally it has shaped the constitutions of the States. Why?

i. March 4. At 12 o'clock noon (11 o'clock by our time) in every odd numbered year Congress finishes its work. Sometimes you will hear that they move the hands of the clock back. Why? Every fourth year the presidential inauguration takes place on this date.

j. The annual town meeting and spring election. Get information from parties who know about town affairs. Are there any special matters coming before your town meeting this year? Who are the candidates for town offices. Procure ballots. How were

these officers nominated? Have results of the election brought in the following day. Call attention to election of judicial and educational officers. Why are these elected at the spring election?

k. Arbor Day. Read the governor's proclamation. What is the purpose of observing Arbor day? A neat, attractive school yard has a wholesome influence on the whole community. How? Likewise a neat and attractive home influences every one that passes it. What can we do to make and keep this schoolhouse and grounds as attractive as possible? What are the children doing individually to help their parents make the homes and home grounds beautiful? Make use of Arbor Day Manuals. See especially "Suggestions for Improvement of School Grounds" on p. 40, issue of 1915. Emphasize conservation of useful plants and animals.

l. Memorial Day. Make much of the observance of this day if school is in session. Have a patriotic program. Two or more schools may join in a celebration. If possible, have a soldier talk to the children. Have children make a list of the names of the old soldiers still living in the neighborhood. Have children note the graves of soldiers.

What great questions were settled by the Civil War? What would have been the result if the "Boys in Blue" had not offered their lives in the service of the country? Read "The Blue and the Gray" or have it recited. Also cultivate a feeling of charity towards the "Boys in Gray". Make use of the Memorial Day Manuals. (See also p. 260.)

m. Fourth of July. Schools are not in session at this time but some time during the year discuss the significance of Independence Day. Have the children imagine the events as they occurred. The accounts should be graphic and realistic and not philosophic. "The Independence Bell." Have the poem read or recited. This bell made a journey to the Panama exposition. The inscription on the bell. What would likely have happened to the signers of the Declaration if England had won? Were the colonists rebels?

n. Circuit court sessions. These vary in different counties. Take this topic up with the pupils when the court is held. Who is circuit judge? How many counties in this circuit? Have the children note the 36 names of jurors published in the local paper. How many of the names are familiar? These names were chosen by lot from a large number of names (400) prepared by a committee appointed by the judge. Note in the local paper the court calendar giving the titles of the cases to be tried. What is meant by "vs".

Draw a plan of the court room showing the judge's bench, the jury box and the witness stand. The judge presides, the clerk of the court keeps the records and the sheriff or the deputy sheriff is the police officer of the court. The two sides of a case are the

prosecution and the *defense*. Each side usually has in its service one or more attorneys,

The method of procedure in a case is usually as follows: Selection of a jury of 12 men; examining and swearing in the jurors; opening of the case by the prosecution; examination and cross examination of witnesses; lawyers' pleas closed by the plea of the prosecution; the judge's charge to the jury; retirement of a jury to a private room; the election of a foreman of the jury; vote taken by jury until a unanimous verdict is reached (all 12 members must agree); entrance of jury to their places in the court room; delivery of verdict by foreman; reading of the verdict by the judge; dismissal of case by judge or pronouncement of the sentence.

o. Work of the assessor. The children have likely taken notice of this officer as he visits each home during the summer. Discuss with them why this needs to be done. What are some of the special qualifications an assessor needs to have? (Good judgment regarding property values and also impartiality.) If a person thinks the assessor fixes too high a valuation on his property, he may make a complaint to the Board of Review or of Equalization in July. This board consists of the town board, the assessor and town clerk. This board is privileged to raise or lower the estimates given by the assessor.

p. Health officer. Who are members of the board of health in your town. The board chooses a *health officer*. Who is health officer in your town? Cases of contagious diseases are to be reported to him and he may quarantine families having certain diseases. See pamphlet containing rules of State Board of Health. Great care should be exercised to keep contagious diseases from spreading and it is the duty of every one to do what he can in this respect. It is the duty of every good citizen to promote health.

q. Roads and bridges. When public improvements are being made in the community, take such topics up for general exercises. Secure or have the children secure information from persons doing the work? How is money derived and who is supervising the work?

r. Care of public property. Develop in the children the right attitude toward public property. All public property belongs to the people and is paid for by the people. Destruction of public property indicates bad citizenship. The schoolhouse and school grounds are public property provided chiefly by parents of the children. Develop in the children a feelng of ownership and responsibility. Care of free textbooks and the books of the library should be dwelt upon. In short, teachers should do all they can through school work to create in the children a desire to do all they can to keep all property in the best possible condition.

s. Naturalization. In some localities it may be profitable to take this matter up briefly as a general exercise; in others in the regular class only.

A person coming from another country is not a citizen of this country until he has been naturalized. It takes at least five years to become a citizen. A person must go before the court and take out his "first papers" and his "second papers". At least two years must intervene between taking out "first" and "second" papers. Witnesses must testify regarding the character, residence, etc., of the applicant.

It is a good plan for the teacher to talk the question over with the clerk of the circuit court and thus get information in its details at first hand. "Fact" blanks may be secured and shown to the children. The regular naturalization blanks are not given out. In some parts of the state public-school teachers have been helpful in preparing immigrants for citizenship.

t. Post office. A large number of letters find their way to the Dead Letter Office each year. Why? Impress upon the children the importance of being careful in addressing letters. The address of the person sending the letter should be on the envelope. Why? Interference with U. S. mail is a grave offense and the penalties are very severe. Every person should do what he can to aid the mail service. Give reasons. Collect a set of the stamps in use. What denominations are sold? What is meant by registering a letter? What is a money order? Have pupils tell what they have noticed about the mail car. It would be profitable if the school could listen to a talk given by a postmaster or a mail carrier. The children should be encouraged to ask appropriate questions regarding matters of public interest.

u. The United States flag. Observation and description. History of the flag. Betsy Ross. The flag salute. Respect for the flag. See Memorial Day annual for 1916.

v. Our country. Have pupils read and discuss with them portions of Hale's "Man Without a Country". Portions of the story may be read to the school by the teacher or pupils. The story itself, told in "relays" by the pupils of the school, is an excellent exercise for a community program. Have the children learn to recite the following:

(1) Thou, too, Sail on, O ship of State.

(2) Breathes There a Man With Soul so Dead?

These selections are good for concert recitations.

w. Current events

x. Governments of other nations with their leaders. See Blue Book or World Almanac. Have the pupils become familiar with the names of some of the world's great leaders so that they may be able to use these names intelligently in their regular school work.

2. Outline for the civil government class in the seventh grade

a. The family. The unit of society. Need for cooperation among the members. Division of duties. Have pupils tell what they are doing as part of the regular home work. Are there any duties for which they are held individually responsible? Tell the children duties for which you were held responsible when a child. If the children have not the proper attitude toward their home duties, try, if possible, to instill in their minds a desire to assume responsibility for certain phases of work and a desire to do this work in the best possible way.

Place upon the board the golden rule: *"All that ye would that men do unto you do ye even so unto them."* What would be the result if this rule were observed by every one? Refer to this rule frequently throughout the course. In the light of this rule discuss the following topics:

(1) Health in the home: It is the duty of every person to keep well and help others keep well. How can it be done?
(2) Work in the home: Importance of little tasks well done.
(3) Recreation in the home: Music, games, reading, etc.
(4) Beautifying the home: Trees, flowers, pictures, etc.
(5) Education in the home: Learning to do things; learning to make things; speaking pieces, singing songs, and telling stories learned in school; applying lessons learned in school; playing on musical instruments; learning to take care of animals, plants, etc.

Teach John Howard Paine's song, "Home, Sweet Home."

The above may be given in the form of general exercises to the whole school.

b. The community. Bring out the fact that the welfare of each home depends upon the welfare of the whole community and that the welfare of the community depends upon the welfare of each home. All should work together for the common good. Give instances to show results that have been achieved thrugh cooperation. The school is one of the results.

What has this community done or what is it doing with reference to health? Education? Improvements? Protecting the people?

c. The school. What does it cost to maintain the school? How is the money provided? What is the purpose of the school? What are the benefits of an education? What subjects do you like the best? Why? How is the attendance in your school? Is it as good as it might be? What are the results of irregular attendance? Why has the state passed compulsory attendance laws? What does the state require the teacher to do with reference to attendance? Why? What right has the state to make such requirement? Why is it poor business to have uncomfortable, unsanitary school buildings? The duties of pupils with reference to school property. The school as a whole reflects the thought and habits of the teacher and the individual pupils.

d. Library lessons. In the early part of school year teach the following lessons as outlined in the department publication Lessons on the Use of the School Library: Blue Book, page 55; Memorial Day Annual, page 74; Government—Reference, page 95. Later in the year, teach the lessons on Newspapers and Magazines, pages 79–92, in so far as the material at hand and the capacity of the pupils will permit. Also make use of the suggestions, in said publications, on Government—General Reading, page 96.

e. The government of the school district

(1) References: The Local Governments of Wisconsin, by D. O. Kinsman (see Township Library List). Some of the counties have published outlines for the use of the schools. Use these outlines in the study of this, and other local government topics.

(2) Additional suggestions: If possible, have children construct a map of the school district. A survey of the district has perhaps been made in connection with the geography work. What is the area? What is the assessed valuation? (This can be obtained from the town clerk.) How much did the district raise locally for school purposes this year? What is the local school district tax rate? When was the annual school meeting held? What were some of the most important things done at the meeting? Does your district have a good school? What constitutes a good school? Who are the officers of the district? How were they elected and for how long? Always emphasize the thought that an officer is a public servant and that it is his *duty* to serve the people and do the things that the law requires done.

f. Government of the town. Use and follow outlines mentioned under the school district.

Get or make map of your county showing boundaries of towns, location of villages and cities. Have pupils copy map of town locating their homes, the school, etc. What work needs to be done for your town? Roads and bridges, care of the poor, arresting and punishing criminals, preventing unsanitary conditions, etc. Area of the town. Population. Origin of name of town. Time and place of holding town meetings. Do all attend who should? How does your town care for the poor? Are there any specially difficult problems to be worked out in your town, such as making good roads, building bridges, etc.? How much money did your town raise for town purposes last spring? What is the assessed valuation of the town? (See county board proceedings.) In what range (or ranges) is your town? What is the number of the township in which you live? Who are the town officers? Where do they live? An officer is a *public servant* working for the people.

g. Village and city. If the school is located in or near an incorporated village or city, these topics should be worked out under the same headings. (1) What things need to be done? (2) Who attends to each? Make the work concrete. Talk with officers about their duties. Make much of the care of public health. Make

comparison of the town government with that of a village or city. What additional problems have the village and city? What additional expenses are usually necessary? Write the names of officers in parallel columns. Why more officers in the village and city than in a town? Why no public meeting for all voters in a village or city? What can be done to make the village or city more beautiful? Dwell upon the need of cooperation between the commercial center and the surrounding community. Discuss the value of public parks and playgrounds.

h. The county. Follow outlines mentioned in **e.** Use county map and also railroad map of Wisconsin. How many counties in Wisconsin? What counties bound yours? What is the area of your county? The population? Which is the largest county in Wisconsin? The smallest? The most populous? Why have we counties? People of towns, villages, and cities have some interests in common: roads go through several of these divisions, records of deeds need to be kept, the insane, paupers, and criminals need to be cared for, schools need supervision, etc.

The county board. How many members? (See county board proceedings.) Who represents your town or village? Bring out the idea that the board is a *representative body.* Note the committees on the county board. Why have committees? What are some of the things that the county board does? Get a copy of the proceedings from the county clerk.

County officers. Work done for the county by each. Are you personally acquainted with any of them? Have you visited the courthouse? Describe the court room. Where is the judge's bench, the jury box, the witness stand? What other property besides the courthouse belongs to the county? The jail, the asylum, the sanatorium, etc. What does the county do for education? Provide supervision and in some cases training schools for teachers and agricultural schools. What is the assessed valuation of the county? What part is that of the assessed valuation of the whole state? (Assessed valuation of the state for 1915 is $3,299,731,408.) What part of the assessed valuation of the county is that of your town?

The exercises indicated above are valuable for training the pupils in finding and using civic material. All of these facts are not to be memorized and minor details should not be asked for in diploma examinations. The facts that they should memorize are those which relate to the larger parts of governmental machinery and their operations.

i. The State. All of the people in a state are interested in having certain things done, so we have State government. This helps the towns and cities, villages and counties; (1) to keep order by taking charge of the worst criminals; (2) to have good schools and higher institutions of learning; (3) to care for people who need aid, as the insane, blind, deaf, etc.; (4) to make good roads;

(5) to settle disputes in higher courts; (6) to make laws for the welfare of all the people.

What is a Constitution? Why have one? Difference between this and a law. Have pupils read carefully the parts of the State Constitution referred to under each of the following headings, as a means of obtaining information upon the important topics in the outline. Omit all clauses that do not aid in this. Do not ask pupils to learn facts that adults of intelligence are not expected to know, and which they will seldom or never meet with in their future reading about governmental affairs. For example: qualifications and privileges of members of the Legislature, the exact process of impeachment, sources of the school fund, limitations on the Legislature, etc. Do not require the memorizing of any part of the Wisconsin Constitution. Encourage rather the discussion of topics showing the actual operations of government.

j. Constitution of Wisconsin

(1) Article I. These 22 sections secure to the people of the state certain rights. This material is rather difficult for pupils of this age and may profitably be omitted. Attention may be called to a few of the provisions such as those in Sections 3, 4, 6, 7, 13, 18 and 19, so that the children know the general trend of the article and can turn to it for reference when questions come up.

(2) Article III. What are the qualifications for voters in Wisconsin? Who are prohibited from voting? *Only citizens can vote.* Teach this topic thoroughly.

(3) Article IV. The legislature. See the maps in the Blue Book showing the assembly districts; the senate districts. What territory is included in your assembly district? In your senate district? Who is your assemblyman? Your state senator? Number of members in each house, their qualifications, term of office, salary. Presiding officers and committees. Compare with county board. Sessions. Call attention to important bills in the legislature while it is in session. Importance of the legislative work.

The legislature provides money for the maintenance of the state government and the payment of all expenses connected therewith. This is done by passing *appropriation bills.* The state has just completed the erection of a new Capitol at a cost of about six million dollars (exclusive of heating plant and furnishings).

Suggestive questions like the following may be given the children in order to train them in getting information from the text.

(a) If our assemblyman (or senator) should resign or move out of the state how would his position be filled?

(b) Can a member of the legislature be arrested? Is there any exception to this rule?

(c) How may a member of the legislature be expelled?

(d) How many members must be present in the assembly in order that business may be transacted?

(e) May the doors be closed to the public when the legislature is in session?

Pupils should prove their answers by quotations from the constitution.

(4) Article V. Governor and Lieutenant Governor. Present incumbents. Election, term of office, compensation, eligibility.

Powers and duties. (a) As executive of the state the governor may direct the attorney general, the district attorneys, and the sheriffs of the state to carry out his orders. He may even call out the state militia, of which he is commander in chief, in case it is necessary. The state militia consists of all the able-bodied men between the age of 18 and 45 years. The *National Guard* is the *organized* state militia. (See p. 413–9, Blue Book of 1915.) (b) He has also power to grant pardons, etc. (c) He sends messages to the legislature. (d) He signs or vetoes bills. (e) He appoints members of commissions, boards, etc. (f) The Lieutenant Governor is presiding officer of the senate and takes the office of the governor in case of a vacancy.

Discuss the different methods by which bills become laws.

(5) Article VI. Administrative department.

(a) The Secretary of State keeps record of the official acts of the legislature and the executive department. He audits the bills of the state and makes orders upon the state treasurer for all moneys to be paid out of the state treasury. His office corresponds to that of the county clerk in the county and the town clerk in the town.

(b) The office of State Treasurer corresponds to the county treasurer, the town treasurer and the school district treasurer.

(c) The Attorney-General is the State's lawyer and represents the State in cases in which the state is a party. The district attorney is also the State's attorney and prosecutes local offenders in the name of the State. Note on the Circuit Court calendar the cases listed: State of Wisconsin vs. ————————. In such cases the District Attorney represents the State.

(d) The State Superintendent of Public Instruction has charge of the supervision of the public schools of the state. (See Article X.)

(6) Boards and Commissions.—In addition to the constitutional departments mentioned above the State has several boards and commissions appointed by the governor. The most important of these are:

(a) Board of Control
(b) State Board of Health
(c) Board of Normal Regents
(d) Board of University Regents
(e) Department of Agriculture
(f) Department of Insurance
(g) Railroad Commission
(h) Dairy and Food Commission
(i) Industrial Commission
(j) Conservation Commission

Information regarding these boards and commissions, their duties, etc., is given in the Blue Book.

(7) Article VII. The judiciary. The supreme court consists of 7 justices one of which is chief justice. It holds its sessions in the

east wing of the Capitol. The state is divided into judicial circuits. How many? (See Blue Book.) In what circuit are you? Who is circuit judge? When does he hold court in your county? Who is the clerk of the court? When are judges elected? Why?

This topic should, if possible, be taken up when the circuit court is in session and portions of it should also be touched upon at the spring election.

The courts have two functions,—to interpret and to apply the laws. If there is doubt as to the meaning or the constitutionality of a law, a case embodying the point in question is brought before the supreme court, and the interpretation of this law is given or its constitutionality or unconstitutionality declared. The courts apply the law when they fix penalties for violations.

(8) Article X. Education. The state superintendent. The county superintendent. The supervising teacher. Make a list of the different kinds of schools in Wisconsin from the district school to the university.

How common schools are supported—(a) by local taxes raised at school meeting; (b) by "county money" (taxes levied by county board of supervisors upon each town, village and city); (c) by money distributed by the state ("state money"), (1) from school fund income, (2) from tax amounting to seven-tenths of a mill on all the taxable property of the state ($200,000 of which amount comes from license fees and taxes paid by corporations; (d) by special funds in the form of special aids to various schools. The school fund amounts at the present time to about $4,000,000 and the annual interest accruing is about $200,000. Who pays the state school tax?

By consolidation of school districts is meant the union of two or more districts to form one. What might be the advantages and the disadvantages from such a procedure in your locality?

(9) Article XII. Call attention to the fact that the constitution can be changed and that this article describes the method. Have them note that the process is cumbersome and that it usually takes several years to bring about a change.

k. United States Government. Before the pupils come to this topic have them read the book entitled Uncle Sam's Secrets, if it is in the school library; or some similar book, such as Uncle Sam's Miracles or Uncle Sam Wonder Worker.

How many States are there? Are all the people of a nation interested in some things? Railroads and rivers run through several states. (Compare cities in the county.) Disputes arise between people of the different States. The whole nation must deal with other nations. All the people own the vacant land of the nation. All use the same kind of money. All wish to send letters into the other states and to other countries.

Take up in detail the outline suggested on page 253. *Some* of the problems that confronted the men in the Constitutional Convention were the following:

Some of the thirteen states were large; others small. The large states wanted the representation in Congress to be based upon population, while the small states wanted equal representation from all states. The result was a compromise by which there was to be equal representation in the senate, and representation according to population in the house of representatives.

In determining the number of representatives in the house some of the states wanted to count the slaves while others objected. The result was a compromise by which three-fifths of the slaves were to be counted.

Some of the states desired to have the importation of slaves contined, while others wanted it prohibited. Again, some of the states desired to have the national government have complete control over the foreign commerce, while this was opposed by others. The result was a compromise by which Congress should have control over foreign and interstate commerce but provided that no law prohibiting the importation of slaves should be passed before 1808.

Follow the same general directions for the study of the United States Constitution as are given for the State constitution. Require memorizing of few, if any, clauses; place emphasis upon the understanding of the main facts about the government that intelligent citizens are expected to know including some topics not mentioned in the Constitution. Omit, or merely read, clauses that do not give information upon the following outline:

(1) Preamble. What is a preamble? What six reasons are given for establishing the constitution? When was the constitution adopted? How many states had to ratify it? When did the new government under the constitution go into effect? See also preamble of State Constitution.

(2) Article I. Composition of Congress. Have pupils examine the pictures of the Capitol building, of the house of representatives and the senate. How many members in each house? Make a list of the members in each house from Wisconsin. Have the pupils examine a map of Wisconsin showing the congressional districts. How many counties in your district? (See Blue Book.) Election of representatives and of senators. The senators were elected by the state legislatures until the adoption of the 17th amendment. Who in Wisconsin can vote for representatives? In what states can women vote for representatives? (See World Almanac) Name the presiding officer in each house. Why have committees in Congress? The doings of Congress are published in the Congressional Record. How bills become laws. Among the important powers of Congress are the following:

(a) Taxation. How does the United States government secure most of its revenue? What is the tariff?

(b) Borrowing money. United States bonds. Treasury notes.

(c) Commerce.

(d) Naturalization. (See also p. 295.)

(e) Coinage. All the money that we have is made by the United States government. The mint.

(f) Counterfeiting. A person who makes bogus money is punished by the United States government.

(g) Post offices. Postal savings banks and the parcel post were introduced by acts of congress.

(h) War. Congress is the only authority that can declare war against a foreign nation. How large is the standing army? The navy?

(i) Patents and copyrights.

(j) Clause 18 of section 8 is known as the "elastic clause." Why? Note that section 9 enumerates several things that congress cannot do. Why were these restrictions put into the constitution? Note also that in section 10 there are enumerated some things which the states cannot do. Why do you suppose these provisions were inserted?

(3) Article II. The president and vice president. Terms and qualifications. How nominated and elected. The White House. A list of cabinet officers (See Blue Book). General duties of each department. (Secretary of State—foreign affairs. Secretary of Treasury—national finances. Attorney general—lawyer for the United States and legal advisor of the president and cabinet members.)

Powers and duties of the president: Commander in chief; message to Congress; pardoning power; appointing power; convening Congress; making treaties.

The president may be removed from office by impeachment. The house of representatives impeaches or makes the charge and the senate acts as a court in trying the impeachment. The most noted impeachment case in the history of the country was that of President Johnson.

(4) Article III. United States courts. How do the judges obtain their positions? What are their terms of office? How many judges in the supreme court? How many circuit courts are there in the United States? In which circuit is Wisconsin? What other states in this circuit? How many district courts in the United States? How many of these courts in Wisconsin? If a person commits an offense against the United States law, making counterfeit money, for instance, he is arrested by a United States marshal and tried in a United States court. In Wisconsin there are two United States district courts. Answers to some of the above questions may be obtained from the Blue Book. Do not require pupils to memorize the facts studied. One value of this exercise is in the training the children get in finding information.

(5) Article IV. Are there any territories at the present time? If a person commits a crime in one state and flees into another state can he be brought back for trial? How? If a crime is committed on Lake Michigan where may the criminal be tried?

(6) Article V. Note that article V deals with the method of changing the constitution. Do not require the children to memorize the method. How many amendments have been made to the

United States constitution? The first ten are known as the "Bill of Rights" and were adopted soon after the government was established. The twelfth amendment was adopted as a result of disputed election of 1800 when Jefferson and Burr were the candidates. The thirteenth, fourteenth and fifteenth amendments were adopted after the Civil War and the sixteenth and seventeenth were adopted recently.

(7) Article VI. What is meant by the "supreme law of the land?"

III. SUGGESTIONS WITH REFERENCE TO THE ORGANIZATION OF A SOCIETY OR CLUB

1. Have pupils seated as conveniently as possible.

2. Tell them that business is brought before an assembly by a motion or by the presentation of a communication.

3. Teach them how to make motions. A person must rise, address the chair by saying, "Mr. Chairman." The chairman "recognizes" the member by speaking his name thus "giving him the floor." When the member has been recognized he makes the motion saying, "I move that," etc., or "I make a motion that," etc.

4. The next step is to have the motion seconded. This can be done by any member without rising and without addressing the chair.

5. The chairman then states the question by saying, "It is moved and seconded," etc., and it can then be discussed. After discussion it is put to a vote. One form is the following: All in favor of the motion say *aye;* all opposed, *no.* The *ayes* have it, and the motion is carried.

6. After this instruction has been given, the children should be given considerable practice in making motions. The larger ones should also be given opportunity to act as chairman and put the motions. The motions that have been taken up thus far are called *Principal Motions.*

7. Subsidiary motions. After the children have gained facility in making and putting motions, and in using the parliamentary terms required in this preliminary work, the *Subsidiary Motions* may be taken up. Of these there are seven and only one should be introduced in any one lesson and then practiced upon until the language of it is mastered and the meaning clear. Then subsidiary motions are all applied to principal motions and the different methods of disposing of them or modifying or changing them.

a. Motion to lay on the table. This motion may be applied to any principal motion and when made is undebatable and must be put at once. The form is "I move that the question be laid on the table." This motion, if carried, disposes of the main question temporarily. Any time the assembly desires, it can revive the main question by having a motion made "to take the question from the table." Frequently this motion is used unfairly to kill a measure.

b. The previous question. The purpose of this motion is to cut off further debate and put the main question to a vote at once. The form is "I call for the previous question." When it is seconded the chairman says, "The previous question on the motion to, etc., is called for. As many as are in favor of ordering the previous question on that motion will rise. Those opposed will rise." A two-thirds vote is necessary to carry the question. If two-thirds vote in favor, the chairman says: There being two-thirds in favor of the motion, it is carried and we shall now vote on the main question. All in favor, etc., say *aye;* opposed, *no.*"

c. Motion to limit or extend limits of debate. This motion is not likely to be needed by the children and can be omitted.

d. Motion to postpone to a certain time. If this motion is carried the main questions becomes "orders of the day" whenever that time comes to which it is postponed. Forms for this motion differ, depending upon circumstances.

e. Motion to commit or refer to a committee. Frequently it is wise to get a small number of specially qualified persons to investigate the merits of a proposition. If referred, the subject is brought before the assembly again in the committee's report.

f. Motion to amend. An amendment may involve (1) adding words to the motion; (2) striking words from a motion; (3) substitution. An amendment may be amended but not an amendment to an amendment. Note the form of the motion as given in the model on page 267.

g. Motion to postpone indefinitely. This motion, if carried, prevents the question from being introduced again during that session.

(For a discussion of the subsidiary motions see Robert's Rules of Order (Revised) p. 104–153.)

8. Organization of a school society. As soon as the children have learned to make motions and to put them an organization may be effected. Have them elect a president and secretary. A program committee may also be appointed and other committees may be appointed for special purposes from time to time. A short program may be given after the "business" meeting or the parliamentary practice. For this practice suggest topics which they may use as subjects for motions. Guide and instruct them but do not fail to have them get the practice. After some time a committee may be appointed to draw up a constitution using the following outline as a guide:

Preamble
Article I. Name
Article II. Members
Article III. Officers
Article IV. Meetings
Article V. Amendments

9. Incidental motions. A few incidental motions may be taken up with the pupils if there is time and the pupils are ready for them:

a. Questions of order and appeal. It is the chairman's duty to enforce all rules of the assembly and to decide parliamentary questions. Every member has also a right to insist upon the enforcement of the rules. In case a person observes a violation of a rule he rises and says without waiting for recognition: "Mr. Chairman, I rise to a point of order." This can be done even while another person has the floor. The chairman asks the member to "state his point," after which he renders his decision by saying, "The point is sustained" or "the point is not sustained."

If a member is dissatisfied with the ruling of the chairman, he may rise and say, "Mr. Chairman, I appeal from the decision of the chair." When the appeal is seconded, the chairman puts the question: "Shall the decision of the chair stand as the judgment of the assembly?" If not overruled by a majority, the decision stands.

b. The suspension of the rules requires a two-thirds vote.

c. Objection to the consideration of a question. It must be made immediately after a subject has been introduced. *This does not require a second* but needs a two-thirds vote to be carried. Why have this provision in parliamentary practice? Why so large a vote?

d. Call for a division of the house. The call may be made without obtaining the floor and does not require a second. It is usually made after a vote has been taken in which the result seems questionable and is for the purpose of ascertaining how many voted on each side of the question. *Arising vote* is usually taken to settle the matter.

10. Privileged motions

a. To fix the time to which the assembly shall adjourn.

b. To adjourn.

c. Questions of privilege; rights and privileges of members.

d. Call for the orders of the day. This does not need a second. If carried, the subject considered at that time is cut off from discussion at once and what has been specifically assigned for discussion at that time is taken up.

11. Miscellaneous motions

a. To reconsider. This motion can be made on the same day the motion was acted upon or the day after. It must be made by a member who voted on the prevailing side. If carried, it brings the original question before the assembly for further discussion and vote.

b. To rescind. This motion is used when it is too late to reconsider. If carried, the effect is the same as if no motion has been made.

12. Illustration. The following is given to show how the subsidiary motions are used. Mr. C. is chairman and Mr. S, secretary.

Mr. A.—(rising) Mr. Chairman.
Mr. C.—Mr. A.

Mr. A.—I make a motion that this society have a Fourth of July picnic.

Mr. B.—(without rising) I second the motion.

Mr. C.—The motion has been made and seconded that this society have a Fourth of July picnic. Are there any remarks?

Mr. M.—I have no objection to the picnic, but we have plenty of time to consider this matter, and as there are some things which must be considered before 9 o'clock tonight, I move that this question be laid on the table.

Mr. O.—I second the motion.

Mr. C.—It has been moved that the question relating to the Fourth of July picnic be laid on the table. (Undebatable). All in favor say *aye;* opposed, *no.* Ayes have it. Motion is laid on the table.

Mr. Y.—Mr. Chairman.

Mr. C.—Mr. Y.

Mr. Y.—It is necessary for us to decide in the early part of the evening whether we shall have Mr. D. or Mr. E. to deliver the address at our meeting next week. I therefore make the motion that we select Mr. D. as our speaker.

Mr. A.—I second the motion.

Mr. C. It has been moved and seconded, etc. Any remarks? (Here followed a discussion which became very prolonged and it was getting near the time when a decision had to be taken.)

Mr. X.—Mr. Chairman.

Mr. C.—Mr. X.

Mr. X.—I call for the previous question.

Mr. M.—I second the call.

Mr. C.—The previous question has been called for. As many as are in favor of ordering the previous question on the main motion will rise; all opposed, rise; (18 votes for; 6 against); the motion is carried. (Two-thirds vote.)

All in favor of selecting Mr. D. as our speaker will say *aye;* opposed, *no.* Motion carried (Main question).

Mr. L.—Mr. Chairman.

Mr. C.—Mr. L.

Mr. L.—I move that Mr. O. be instructed to communicate with Mr. D. at once by 'phone so we may know definitely if he is available.

Mr. M.—I second the motion.

Mr. C.—It has been etc. Any remarks? . . . All in favor say *aye;* opposed, *no.* Motion carried. Mr. O. is hereby instructed to communicate with Mr. D. and report the information to the meeting. (Mr. O. leaves.)

Mr. R.—Mr. C.

Mr. C.—Mr. R.

Mr. R.—I move that a committee of three be appointed to make the special arrangements needed for our next meeting.

Mr. S.—I second the motion.

Mr. C.—It has been etc. Any remarks?

Mr. A.—Mr. C.

Mr. C.—Mr. A.

Mr. A.—I move to amend the motion by substituting *five* for *three.*

Mr. N.—I second the amendment.

Mr. C.—The motion has been amended . . . Any remarks?

Mr. T.—I believe that it is not right to expect only five to do all the work connected with this meeting. Let us all help. Therefore, I move to amend the amendment by giving the five the right to draft as many members as may be needed to help them.

Mr. U.—I second the last amendment.

Mr. C.—The amendment has been amended . . . Any remarks? (After a few members had spoken the vote was put). We

shall first vote on the last amendment. All who are in favor of . . . say *aye;* opposed, *no.* Amendment carried. We shall now vote on the first amendment *as amended.* All in favor of substituting *five* for three and give them the power . . . say *aye;* opposed, *no.* The amendment as amended is carried. We shall now vote on the original motion as amended. All who are in favor of . . . say *aye;* opposed, *no.* The original motion as amended is carried.

Mr. F.—Mr. C.

Mr. C.—Mr. F.

Mr. F.—I move that the society have no meetings during the summer months.

Mr. Z.—I second the motion.

Mr. C.—It has been . . . Any remarks?

Mr. M.—I move that the question be postponed indefinitely.

Mr. S.—I second the motion.

Mr. C.—It has been moved . . . Any remarks? (Several take part in discussion.) All in favor of indefinite postponement of this question say *aye;* opposed, *no.* Carried.

Mr. F.—I call for a division of the house.

Mr. C.—A division is called for; those in favor will rise. Those opposed wll rise. The motion is carried by a vote of 12 to 11.

RECESS

Mr. C.—The meeting will come to order.

Mr. O.—Mr. C.

Mr. C.—Mr. O.

Mr. O.—I learned from Mr. D. that it is impossible for him to come to our next meeting as he has another engagement. Therefore, I move that we reconsider the vote on the motion regarding the choice of speakers.

Mr. S.—I second the motion.

Mr. C.—It has been moved . . . Any remarks?

Mr. A.—Mr. C.

Mr. C.—Mr. A.

Mr. A.—I rise for information. Did the gentleman who made the motion vote on the prevailing side?

Mr. C.—He did—If there are no more remarks we shall vote on the question. All in favor say *aye;* opposed, *no.* Motion is carried. The question regarding our speaker is now open for discussion.

Mr. M.—Mr. C.

Mr. C.—Mr. M.

Mr. M.—I move to amend the motion by substituting Mr. E. for Mr. D.

Mr. N.—I second the amendment.

Mr. C.—An amendment has been made to substitute Mr. E. for Mr. D. Any remarks? . . . All in favor of the amendment say *aye;* opposed, *no.* Amendment carried. We shall now vote on the original motion *as amended.* All in favor say *aye;* opposed, *no.* Carried.

Mr. A.—Mr. C.

Mr. C.—Mr. A.

Mr. A.—I make a motion that we have no meetings during the summer months.

Mr. C.—The gentleman is out of order. That motion has been made before during the session and it was postponed indefinitely.

Mr. I.—Mr. C.

Mr. C.—Mr. I.

Mr. I.—I move that the question of having a Fourth of July picnic be taken from the table.

Mr. A.—I second the motion.

Mr. C.—It has been moved . . . (Undebatable) All in favor say *aye;* opposed, *no.* The motion is carried and the question is before the assembly.

Mr. U.—I move that this matter be referred to a committee composed of the treasurer and two other members appointed by the chair, said committee to report at our meeting two weeks from tonight.

Mr. V.—I second the motion.

Mr. C.—It has been moved . . . (Several take part in the discussion.) All in favor of referring this to a committee say *aye;* opposed, *no.* The motion is carried. As members of the committee I appoint Mr. U. and Mr. M.

Mr. B.—Mr. C.

Mr. C.—Mr. B.

Mr. B.—I believe that we ought to have a lecture course in the city. Therefore, I make a motion that a committee be appointed to consider the advisability of undertaking this matter and report next week.

Mr. Q.—I second the motion.

Mr. C.—It has been . . . Any remarks?

Mr. S.—Mr. C.

Mr. C.—Mr. S.

Mr. S.—I think it is early in the year to take up this matter, and besides we do not expect to have a business meeting next week. I believe it is better to wait until Mr. E. has been here as he will be able to give use some advice in this matter. I therefore move that the consideration of the question be postponed until our meeting two weeks from tonight.

Mr. T.—I second the motion.

Mr. C.—It has been . . . Remarks? . . . Only remarks regarding wisdom of postponement were allowed.) All in favor of the postponement say *aye;* opposed, *no.* Motion carried.

Mr. A.—Mr. C.

Mr. C.—Mr. A.

Mr. A.—I move that we adjourn.

Mr. N.—I second the motion.

Mr. C.—It has been . . . (not debatable). All in favor say *aye;* opposed, *no.* The motion is carried and the meeting is adjourned.

IV. TESTS FOR GRADUATION

1. Pupils finishing the common school should have definite knowledge of the principal features of the United States government and the government of Wisconsin.

2. They should be able to use the constitutions in finding answers to questions of reasonable difficulty.

3. They should be able to use the Blue Book, World Almanac, and other reference books on government in the library.

4. They should have a knowledge of the main features of the local governments and be able to look up detailed information of a particular nature.

5. They should know the elements of parliamentary practice and be able to participate in meetings when simple usages are practiced.

6. They should have the ability to read the newspapers intelligently and report on current events.

V. REFERENCES

1. **References for teachers and institutions that train teachers**

Bureau of education bulletin. The teaching of community civics. Bulletin No. 23, 1915.

Cabot & Andrews. A course in citizenship. (T)

Charters. Teaching the common branches, p. 266—72. (T)

Kendall & Mirick. How to teach the fundamental subjects, p. 265–88. Houghton.

Rice. Lessons on the use of the school library, p. 19, 55, 79, 95–6. Issued by the State Superintendent, Madison Wis.

Robert. Rules of order; revised. (T)

2. **References for pupils**

Blue Book

County board proceedings

Dole. The young citizen. (T)

Field & Nearing. Community civics. (T)

Gillett. George Anderson of Wisconsin. A. D. S. Gillett, State Normal School, Superior, Wis.

Hoxie. How the people rule. (T)

Kinsman. Local governments in Wisconsin. (T)

Pamphlet on local government issued by county (if any).

World Almanac

Textbooks. It is also well to have a copy of a textbook, in addition to the one used in class, for reference on certain topics.

MUSIC

I. GENERAL SUGGESTIONS

1. Definite ends to be attained in school music training. While the teacher should have in mind the general objects of music training, such as making the school happier, training and developing the emotions, bringing beauty into the schoolroom, disciplining the mind, etc., she should center her attention especially upon the four following objects:

a. Committing 100 songs to memory. Fifty of these should be selected because of their permanent value throughout life. They should be songs which the child will enjoy singing while he is in school and after he leaves it and which will consequently be suitable for singing by him, his brothers and sisters, his father and mother, and in fact any social group. The remaining 50 songs should be selected from that collection of material designed especially for the growing child which is of great value for a few years, but which, like the rhymes and stories of childhood, is left behind as the child grows. Carefully worked out lists of these songs are given below.

b. Beautiful tone. The child should be trained to appreciate beautiful tone in singing and to approximate this in his own singing. A large part of the value of songs comes from the tone with which they are sung. Definite directions for obtaining beautiful tone quality will be given later.

c. Listening to good music. There are now so many available means of obtaining good music that we may expect listening to beautiful music to be part of every child's experience.

d. Elementary technical training. We should help the children to gain command of the simpler technical elements of music so that they may be able, by the time they leave school, to read the melody at least of an ordinary hymn tune.

2. Suggestions for teaching songs by rote

a. Value of teaching by rote. Until children learn to read music by note, the songs which they learn must be acquired by imitation; that is, by rote. This is a common method of learning not only in music but in every other branch of study, and is important enough to merit careful consideration. No subject so well as music can give the valuable training which comes from the acute ob-

servations of a discriminating ear. The teacher should therefore strive by means of this rote song teaching not only to please the children with the songs, but to make them observe more accurately in all of their hearing. Make the learning of a song something of a game in quick attention and accurate retention. The children should have pleasure and pride in remembering things that they hear only once or twice.

b. Songs not all to be taught in one day. While the directions given below apply largely to the teaching of a song on the day that the children hear it for the first time, it is also desirable to extend this period of quick attention and accurate retention to more than one day. Sometimes it will be desirable to sing a song once or twice on one day, then not attempt to have the children learn it until the next day. By this means the teacher will find that the song is more easily learned than if it were all studied the same day and, moreover, that the interest of the children is maintained for a longer period.

c. Selection of proper songs. The teacher who wishes to teach a rote song, should first of all select something that is of interest to the children not only in a general way, but, if possible, something which has a particular interest at the time that the song is taught. For instance, at the beginning of the winter, teach a snow song; in the spring, a song of flowers or birds; at a period of remembering great men, such as February with its birthdays of Lincoln and Washington, patriotic songs. In general, try to make the songs appropriate to the season.

d. The teacher's preparation for teaching a song. Prepare all of your songs at least a week before you intend to use them. Learn them by heart so that you can sing them without a book before you. This will enable you to look squarely into the eyes of the children as you are singing, and also to make such movements with your hands and such expressions with your face as will help to convey the meaning; in other words, to tell the story of the song. In preparing yourself for this singing to the children, read the text carefully to get the thought expressed; study the melody until it is memorized and you can sing it without the piano accompaniment; practice the phrasing and the breathing so that you will have it exactly right when you sing it before the children. You are training your children to observe accurately and to imitate closely, and you may be sure that there is nothing they will more quickly observe and more carefully imitate than any mistakes you may make in the first performance.

e. Preparatory material. Before singing the song the first time, it is usually well, unless the song is a very simple one, to tell something about the contents of the song. This may be done by a little story, by a picture or by some other means particularly appropriate. Make these introductory remarks as short as possible, so the children will be trained to get the story from the song,

rather than from the story which the teacher tells beforehand. If there are difficult words, these should be drilled upon first so that the children will be prepared for them. After the teacher has sung the song once or twice the children should have an opportunity to ask questions or give their ideas about the song.

f. Summary of steps

(1) Creating the atmosphere and preparing the mind for the song, as has just been described.

(2) Songs sung through by the teacher from memory.

(3) The contents of the song talked about.

(4) The words repeated once in order that each word be distinctly understood.

(5) The song sung through again by the teacher once, twice, or as many times as are necessary in order that the children may get it as a whole.

(6) When the children begin singing parts of the song, although usually it may be found necessary to begin with the first phrase, there are times when the children may quite as well, if not better, begin with some other phrase, especially if there is a refrain, or a part that occurs more than once. Train the children to watch for the repetition of a phrase, because by this means, they are greatly increasing their power of learning the song. The children should sing their part alone. If they make a mistake, the teacher should ask them to listen again while she sings, and then should allow them to try again alone. Continue this process until they can sing their part correctly alone.

(7) Continue two phrases; that is ask the children to sing twice as much at a time. Continue this process of combining until the children have learned the entire song and can sing it unaided.

(8) If a piano or organ is available the song may now, *for the first time*, be sung with an accompaniment.

g. Long pauses to be avoided. After the children begin to sing phrases there should be no long pauses between the teacher's singing and the children's singing. After the teacher has sung a phrase, the children should sing it back with no loss of time, keeping the rhythm all the while. The teacher sings the next phrase and the children sing it after her, and so on. She continues connecting phrases with the children responding until the whole song is learned and the rhythm has been kept throughout. This is necessary in order to avoid the children's obtaining distorted notions in regard to the song as a whole.

h. Importance of correct rhythm. The correct rhythm of the song should be used even at the very beginning whether the song is fast or slow. Moreover, if the children sing a phrase incorrectly, it is better for the teacher to repeat the phrase a number of times rather rapidly, if such is the prescribed speed, instead of singing it once or twice slowly.

i. Devices for maintaining interest. Keep up interest in your teaching by skillfully alternating easy and difficult material, songs

that will appeal to the small children and those that are especially for the older ones, or for girls and boys, respectively. See that you have songs that will excite immediate interest well distributed among those which the children will have to study a time before they like them. In reviewing songs, do not do so indiscriminately. Arrange to drop certain songs for certain parts of the year. Return to them now and then as the children call for them; but, do not continue, for instance, singing a song of Thanksgiving throughout the entire year. In order to maintain this freshness of interest it may even be well in ungraded schools or in schools in which there are a number of grades together to arrange the material so that there is a cycle of two or even three years. With the large number of songs that we have on our list, such an arrangement is possible.

j. Antiphonal singing. With old songs and occasionally wih new ones devise new ways of singing them. Reference is made here not only to the expression (the loudness and softness, and such other variations as are indicated in the music itself or are brought out by the various means of teaching rote songs), but rather to the distribution of the songs to various groups of pupils. While as a general rule all of the pupils should sing all of the songs, it will be found that interest will be heightened if there are certain songs which are sung by the little ones only, and certain others that are sung only by the older pupils. Some songs, moreover. lend themselves to divisions within themselves. Let the boys sing one part; the girls another; or, let the division be between the teacher and the pupils. These are all devices, (so called antiphonal singing) which orignated in the churches that divided the choir into two sections (one on each side of the church), and had the anthem consist of portions sung first by one side, and then by the other, and then by both. The teacher who makes a careful study of devices of this nature will soon find that she can interest even the older boys who so frequently present a difficult problem. Enlist their aid by getting them to select songs and by giving simple parts which they can sing effectively. Hardly any boy will resist the opportunity of singing the first part of "Old Black Joe".

II. WORK TO BE DONE

1. A list of 50 songs of permanent value for community singing. The Music Supervisors' National Conference has published a pamphlet entitled "Fifty-five Songs and Choruses for Community Singing" (C. C. Birchard and Co., 221 Columbus Avenue, Boston, Mass., price, ten cents). Although intended primarily for adult singers, the larger number of these songs can be taught to children in the grade schools, although a few, if the children go on into the high school, might better be delayed until that period. Moreover, al-

most all of the songs are suitable for children of the fifth grade and above. It will be found advantageous in many cases to teach some of the songs even to the smallest children.

As a guide to the order in which the songs may best be introduced, they are apportioned below according to the usual scheme of the eight grades. This arrangement will serve to indicate degrees of difficulty and will help in distributing the songs according to the growing interest and ability of the pupils. In ungraded schools or schools which have different divisions from those here given, the teacher will use the list as a general guide to her procedure. The list is to be considered as a cumulative one, that is, the songs given for any one grade are to be repeated in all the succeeding grades.

It will be noted that practically all of the material is of the folk song type. Long experience has proved that this is the material which will stand the test of time and constant use. These songs are the winnowings from thousands. The teacher may be assured that in giving any of the material listed her, she is not wasting her time or that of the pupils.

Grade I

America (1st stanza)
Yankee Doodle
My Bonnie

Grade II

America (2nd stanza)
Old Folks at Home (1st stanza)
Holy Night (Stille Nacht)
Row, row, row your boat
(Not as a round)

Grade III

America (3rd & 4th stanzas)
Old Folks at home (2nd & 3rd st.)
Lightly Row
Flow gently, sweet Afton
Deck the hall with boughs of holly
Round: Row, row, row your boat

Grade IV

Star Spangled Banner (1st, 2nd, and last stanzas)
Dixie (1st and last stanzas)
Blue bells of Scotland (3 stanzas)
The First Nowell
Come, Thou Almighty King
Home Sweet Home
Round: Are you sleeping

Grade V

Columbia the gem of the ocean
Battle hymn of the Republic
Santa Lucia
Onward Christian Soldiers
Old black Joe
Round: O. how lovely is the evening

Grade VI

Hail Columbia
Auld lang syne
Loreley
Old Kentucky home
Nearer, my God, to Thee
Nancy Lee
How can I Leave thee
Round: Good night to you all

Grade VII

Speed our republic (Keller's American Hymn)
Merry Life
Anvil Chorus
Believe me if all those endearing young charms
Massa's in the cold, cold Ground
Annie Laurie
Good night, ladies
Tenting on the old camp ground
Lead kindly light
Lost chord
Round: Early to bed

Grade VIII

America the beautiful
Sweet and low
Juanita
Hark the herald angels sing
Love's old sweet song
Stars of the summer night
Out on the deep
Drink to me only with thine eyes
Soldier's Farewell
Round: Merrily, merrily greet the morn

2. A list of 50 educational songs selected from the rote song books suggested under V, referenece books. (See page 281.) The songs listed below are typical of the high class of material which should be given to children. While these are not the only good songs, they represent standards which the teacher should constantly apply. Shun the ephemeral songs which occur so often in the educational periodicals. Most of them are poor, and even when they are good, they are inferior to the tried and tested songs that are given in this list. Time is precious. It ought not to be wasted upon poor songs.

Every school should, when possible, possess all of the ten volumes listed under the Reference Books. No single book contains all the good songs, and a teacher who wishes to give only the best material should not restrict herself to one or two collections. There will be schools, however, that are not able to purchase all of the books recommended. It is possible to find ten good songs in any one of the books mentioned. Few books contain more than ten songs which are adapted to varying needs of the schoolroom. In making a final list for any one year, the teacher will be guided by her individual preference and by the material which is available. (For complete titles of the books, publishers, etc., see references on page 281.)

Modern music primer

Left right
Little gypsy dandelion
The dairy maids
Dancing song (p. 23)
Sleighing song
When the winter's over
Dancing song (p. 110)
When the little children sleep
The woodpecker
Jack Frost

Elliott's Mother Goose set to music

Little Bo-Peep
Hickory, Dickory, Dock
Little child and the star
Mistress Mary
Little Jack Horner
I love little Pussy
The King of France
Twinkle, twinkle, little star
Baa, baa, black sheep
Is John Smith within

Children's songs of long ago

The archer
The fox and the grapes
The harvest home
How doth the busy bee
Lavender's blue
The little man and the little duck
The mill
The strawberry girl
The swing
When the rosy morn appearing

Bentley primer

The fiddle
Dancing song
Cradle song
Who has seen the wind
Wing Foo
Jack Frost
Honk, honk
Santa Claus
The clock
My old Dan

Gilbert's 100 folk songs

A hunting we will go
The ash grove
The British grenadiers
The Campbell's are comin'
Duke Marlborough
Indian song
The scarlet sarafan
O dear, what can the matter be
May breezes
Tic-e-tic-e-toc

Gaynor I

The bird's nest
The land of nod
The little shoemaker
Rub-a-dub-dub
The Brownies
Harvest of squirrel and honey bee
Tracks in the snow
Jack Frost
The owl
Little yellow dandelion

Hofer's Popular folk games and dances

I see you
Swedish Gymnastic dance
Bleking dance
Rabbit in the hollow
English May game
Italian peasant dance
Danish hornpipe
Twining the wreath
Danish ring game
German klapp dance

Folk songs, chanteys, and singing games

The tree in the wood
As I was going to Banbury
Dabbling in the dew
The wraggle taggle gypsies, O
Oats and beans
London bridge
When I was a young girl
The Roman soldiers
A-roving
O Johnny, come to Hilo

Teachers' edition for elementary grades of New educational music course

Nature's good night
Boating
Song-story: Brownies' umbrella
Spring song
Thanksgiving song
The little dustman
The icicle lesson
The sea
Song of the March wind
Winter lullaby

Teachers' manual—progressive music series—book I

Good morning
The postman
Cherries
Lady Bug
The gypsy peddler
Soldier boys
Betty and Billy
Playing soldier
False Alarm
In wooden shoes

3. What to do in addition to rote singing. The teacher who has taught her children a large number of good rote songs and who has frequent singing of them with a good tone and happy participation has done a large portion of what may usually be expected in the common schools. So much in addition to this, however, has been accomplished in schools in which the music has been carefully planned and adequately taught, with a sufficient amount of time each day, that this outline would be incomplete if it did not indicate further steps which the capable teacher will endeavor to take. Many of the suggestions that follow have direct bearing upon the beauty of the rote singing; others, have to do with that important part in music education, learning to read music.

a. Breathing exercises. One minute devoted to the right kind of breathing exercises at the beginning of the music period will not only help the singing, but will invigorate the children for all of their work. Fill the room with fresh air before the music lesson. Have the children rise, stand on the balls of their feet, shoulders erect, chest high. Keep tension out of the neck by having the head thrown heavily from one side to the other. Hold the breath for ten or twenty seconds, or a sufficient time to give a sense of a filled, resonant pair of lungs. Exhale slowly and evenly in a long stream for as long a time as possible. A number of teachers advocate little plays for these breathing exercises. Miss Kathryn E. Stone, Supervisor of Music at Los Angeles, California, in her helpful Teacher's Manual of Music for the Elemen-

tary Schools gives the following suggestive exercises for primary grades:

Smell the rose—hold the breath, then quietly and slowly blow away its petals.
Smell the violet—then blow to lift the ceiling
Smell the clover—then moo like the cow.
Smell the clover—then hum or buzz like the bee, near and then far away.
Smell the honeysuckle—then hum like the humming bird.
Smell the flower—then blow a soap bubble or feather, send up a skyrocket, or wind the top with a z-z-z-z, or puff like an engine.

The important thing in all of these breathing exercises is that they should be done quickly and entered into heartily. During the actual singing period the teacher need say little if anything regarding breathing. If the children give due regard to the sense and the sentiment of the words, that is, if they phrase properly and sing with the right sort of tone, they will breathe properly in most cases. It is, in fact, better to have these given at some other than the music period, since they produce best results when used merely as relaxation or play.

b. Making acute listeners; general sense training. As occasions arise outside of the music period, such as indoor recesses or times of games and informal programs, give attention to various devices for sharpening the senses;—sight, sound, touch, taste, smell. The ears of the children will be made much keener if they have such games as naming, with eyes closed, who the children are merely from hearing them say a word or two; telling what object in the room the teacher is striking when she passes about; distinguishing the size of bottles merely from hearing the sounds made by tapping upon them; naming the songs from which little phrases are taken which the teacher sings; telling from hearing what the rhythms of songs are, that is, whether they are marches in double measure, or waltzes in triple measure. These suggestions are merely typical of the many interesting devices which the teacher may find for making a pleasant play of an excellent sense training.

c. Special attention to tone. There is hardly any aspect of the music teaching that is so important as the training of the children to sing with a light mellow, round, easily produced tone. The singing voice can be controlled almost absolutely since most of the children sing little away from the school; the talking voice is quite another matter for obvious reasons. But the teacher who has made children realize the possibilities of beauty in correct singing will be able to do much in obtaining pleasant speaking voices.

Careful attention should be given in all singing not only to the quality of tone but to the range of the songs. Usually, songs are pitched too low, especially if the teacher herself has trouble with the high tones. Be careful to follow the pitch of the printed music absolutely. Always have your pitch pipe ready both to start the song and to test

it at the end and during the song. Have children sing with a light tone rather than with the harsh, strident shout that is so common.

The thin, head-tone, high in pitch and light in quality is the voice which the teacher should insist upon getting. Keep the songs pitched correctly—*never start a song by guess or by ear;* always use either a pitch pipe or an instrument—and do not allow noisy, harsh, sharp, or nasal singing at any time. You can get all the enthusiasm and hearty participation you want if you start the children right and never allow them to shout. Sing songs with *loo* to get a soft tone. Then try to keep this same quality when words are used. Use imitations of the wind sighing through the trees, the sound of the dove cooing or the cow mooing. Let the children bring in other soft and beautiful sounds of nature. This will both emphasize the quality of tone and will make the children more keenly alive to the sounds of nature. Use also the sounds of the mother calling her child—"*Mary.*" Many of these sounds are very helpful in developing those children who are somewhat deficient musically, the ones who are so frequently misnamed as "monotones." It is worth while to give some special attention to these pupils.

d. Helping the musically backward

(1) Arrangement of children. Seat all the children in the room in the following way: Let your very best singers be in the rear seats all the way across the room; the next best be in the seats in front of those, and have the poorest in the front seats. By this means every child has someone sitting behind him who is a better singer than he is and who consequently offers a model to him for better singing. Very early in the year test all of the children by means of a little song that each one sings alone or possibly better, by one of these imitations or calls which each one sings alone.

(2) Special individual help. While this seating arrangement will do much to assist the children who are deficient or backward musically, it will not take care of the worst cases. A child, for instance, who persistently sings on a single tone needs special attention. So does the child who sings a tune incorrectly, especially if he is no longer among the youngest children. The little folks frequently do not sing to the pitch because they are not accustomed to singing, and not because they have not good ears. Many of them will develop into good singers merely by hearing the others sing correctly. The best aid, therefore, to good singing later on, is allowing only those children to sing at first who can sing correctly. Let the other children listen a great deal and try to sing occasionally. As soon as they can sing correctly, allow them to join in with the others. Most of the children who do not sing correctly, are not tone deaf, but simply careless in their listening. What we need to do in training them is to get them to listen more sharply. But even these children do need a little special help and the teacher may well take a portion of the music period for individual work with these children. Imitate sounds such as one child calling another some distance away, the mooing of the cow, the whist-

ling or humming of the wind, cries of peddlers, the sound of the trumpet, or of the drum, in fact any combination of sounds which will interest the child and which he will be pleased to imitate. The sound of the cuckoo, such as is given out by a cuckoo clock, is helpful in the beginning. Usually, however, the intervals should be those that go upward instead of downward. The octave jump is especially helpful, such as in calling a child, *Johnny*. Sing little phrases with words which you make up yourself on the tones of the chord *do, sol, mi, do*. Start with any pitch which the child can sing rather than insist upon his taking the pitch which you give. After the children can give these isolated sounds or little phrases correctly, let them try portions of songs; then gradually encourage them to do all of little short songs, and finally allow them to join in the general singing. Some excellent material for this purpose is given in *Child-Land in Song and Rhythm* by Barbour, published by A. P. Schmidt & Co., Boston. See that they sing softly at first, so that they constantly hear the sound of a better singer namely, of the one sitting in the rear of them. The most important part of this work is the spirit of encouragement and the daily practice even if it be for only a minute or two.

This endeavor to obtain pure, true singing by all of the children will cause the work to move slowly at first, but the good results that will come later on will more than repay the teacher for all of her efforts. It is true that rhythm can be obtained from music without beautiful tone, but rhythm by no means compares with tone in beauty and artistic effect.

(3) The problem of keeping the boy singing as he enters adolesence.

As the boys grow older and enter the adolescent period, their voices will grow lower in pitch, in other words, will "change." This is a period which the teacher will have to watch carefully. Nearly always, if the relationships of the schoolroom are harmonious, the natural instincts of the boy may be trusted. While there is no excuse for allowing a boy of ten or eleven to sing a song at any pitch other than the one that is stipulated by the composer, when the boy becomes two or three years older, he may with perfect reason desire to sing the song somewhat lower than it is pitched. When there is no part singing in the school the only course left for him is to sing the melody an octave lower, and this frequently brings it into a region where he can only growl. This is of course an undesirable condition. The remedy is either to change the pitch of the song so that the boy of this age can sing it comfortably, or to select another song of more limited range which is within his power, or to ask him to refrain from singing for a time. Unfortunate as the latter condition is, it is sometimes the right one. It is absolutely essential that the tone of the singing as a whole be a pleasant one; and unfair as the procedure is for the individual boy, still, from the point of view of the entire school it is necessary to treat the boy with the growing voice quite the same as we have de-

scribed for the musically deficient. One other device should, however, be mentioned, namely, that of allowing the larger boys to whistle the melody while the other children sing it. This always appeals to them and in many ways gives them good music training besides enabling them to be a part of the general music period. It may, if carefully guided, add greatly to the purely musical effect.

e. Special attention to rhythm. All children are naturally rhythmical; the school needs merely to give opportunities for strengthening this instinct, and for making the children analyze and understand it. There should be scattered throughout the week in play periods and times for physical exercises, frequent opportunities for marching, clapping the hands in time to the music, and other devices for strengthening the rhythmic instinct. Poetry should be read with strong accents, in fact with little children sing-songing is a desirable process, especially with such jingles as the Mother Goose rhymes. One of the best ways of approaching a new song that is to be studied by note is to have the children read the text rhythmically aloud. This frequently gives almost the exact values of the various notes.

Rythmic games and folk dances are of the greatest value to the music training besides being excellent for many other purposes. It is significant that the later series of music books include a considerable amount of material of this kind.

4. Reading and writing of music. So marked has been the development of methods of teaching the reading and writing of music that there is no longer any reason for denying at least some of this work to children in all of our schools. Just as in the literature or general reading work the first steps are no longer the learning of the alphabet but the recognizing of words and phrases in material which the children have already learned by ear, so in the best music methods to-day the child does not begin his study by learning scales and then gradually constructing isolated musical phrases, but rather recognizes parts of a song which he has already learned by rote. The reading of music then should begin with the material given in the rote songs. Much of the work will be of a kind that will seem to be little more than getting acquainted with songs that are already familiar. Let the teacher begin by singing the first phrases of a number of these songs with *loo*, and asking the children to tell the names of the songs, or better, to sing after her the same phrase, using the right words. Then the teacher may give the children, as another set of words, the syllable or scale names of these song phrases to that when she sings them with *loo*, she may have the children reproduce them with words or scale names. After the children can sing a large number of these phrases with the scale names, the teacher may proceed to the next step, namely, the placing of these phrases upon the board, or better still, upon placards of stiff cardboard. (The cardboard is better because it saves the blackboard space and can be used month after month after being written

once.) At first the teacher will tell the children just what phrase is represented on the cardboard. After a number of them have been identified in this way, the children will have to do some thinking and calculating in order to distinguish between the various phrases. The next step will be taking portions, say measures, of some of these phrases and asking the children to sing them with words or with scale names. When this work has been done thoroughly and happily, for it may all be done almost in the play spirit, the children are ready to take up new material either upon charts or better still, in books which they have in their hands. For suitable books see No. 3 under References (V). Eventually the school should possess sets of two or three different series.

III. SPECIAL TOPICS

1. The use of the phonograph in the schoolroom. The phonograph can be of great aid in the teaching of music. Some of the purposes for which it may be used are the following:

a. Supplying music for marching, rhythmic exercises, games, folk dances, and the like.

b. Furnishing excellent material for listening lessons in music. This is a need that it has been difficult to supply in most schools and that can now inexpensively be taken care of. Children and adults are alike hungry for good music.

c. Supplying patterns for rote song singing. Some of the companies have songs that are made especially for this purpose, both to assist teachers who cannot sing and to give suggestions to those who can sing.

d. Giving material for technical study. The following is a summary of how one particular record (Victor, number 17719) has been used in this connection:

(1) Children listen
(2) Children hum (with the instrument)
(3) Children sing softly (with the instrument)
(4) Children sing first and second phrases
(5) Children sing third and fourth phrases
(6) Children clap rythm
(7) Children mark rythm at blackboard
(8) Individual test (singing words)
(9) Individual test (singing syllables)
(10) Individual test (singing syllables and clapping rythm)

LIST OF PHONOGRAPH RECORDS RECOMMENDED FOR SCHOOLS

Before giving a list of isolated records, mention must be made of the remarkable set of educational records published by the Foresman Record Company of Chicago. In 48 closely related records embodying

over 200 examples and studies, this company has arranged a complete teaching series by the aid of which remarkable results may be obtained in any school; in all of the lines of work mentioned in this outline.

The following 18 individual Victor records which may be purchased at the total cost of $16.50, will be found very valuable for explanatory material either with the Foresman course or independent of it:

No. 18076:. Ten Children's Rote Songs:
Mother Goose Songs—(1) Humpty Dumpty; (2) To Market; (3) Crooked man; (4) Tommy Tucker; (5) Mother Hubbard; (1) Sing a song of sixpence; (2) I love little Pussy; (3) Georgie Porgie; (4)Pussy Cat; (5)Feast of lanterns—Elizabeth Wheeler ..... .75

No. 17719: Eleven Children's Rote Songs:
(1) Jack in the Pulpit; (2) In the belfry; (3)Corn Soldiers; (4) Naming the trees; (5) Squirrel; (6) Windmill; (1) Riggetty Jig; (2) Singing school; (3) Dancing song; (4) Dancing in May; (5) Mother Goose lullaby... .75

No. 17937: Seven Children's Rote Songs:
(1)Baa, Baa Black Sheep (2) How many miles to Babylon; (3) Bobby Shafto; (4) Baby Dear; (1)Little shoemaker; (2) Song of Iron; (3) The blacksmith..... .75

No. 35595: Teaching Record:
Scale exercises, dictation, elementary songs, etc. 1.25

No. 74359: Art Song, Baritone:
The lost chord 1.50

No. 18045: Folk Songs—Contralto:
Home, Sweet Home; My Old Kentucky Home..... .75

No. 17580: Band—Patriotic Songs:
America; Red, White and Blue ..... .75

No. 18145: Band—Folk Songs:
Believe me if all those endearing young charms; Home, sweet home; My old Kentucky home; Battle hymn of the republic ..... .75

No. 64134: Violin:
Traumerei 1.00

No. 45096: Cello:
The swan; Melody in F 1.00

No. 17917: Xylophone Bells:
Gavotte; minuet ..... .75

No. 17454: Trio—Violin, Cello, Harp:
Berceuse; humoresque ..... .75

No. 35324: Orchestra:
In a clock store; Hunt in the Black Forest..... 1.25

No. 18017: Band—March:
Tenth Regiment; In the park ..... .75

No. 17761: Band—Singing Games:
Seven pretty girls; The first of May ..... .75

No. 17084: Band—Folk Dances:
Shoemaker; Klappdans ..... .75

No. 17158: Band—Folk Dances:
I see you; Dance of greeting ..... .75

No. 55049: Bird Imitations:
Songs of our native birds, Nos. 1 and 2 ..... 1.50

2. Relation of the school to the community at large

In the movement for relating the school to the activities of the community, music can play an important part. Two points only need to be mentioned in this outline:

a. Programs by the children. These should contain, first of all, songs that are given in the lists above, not the special material which is so often introduced for temporary entertainments. They may also include phonograph records which the children have studied in school and about which they have, with the aid of the teacher, formulated some explanatory and biographical remarks which will be of interest and help to parents. The University Extension Division is giving considerable attention to this work and will be glad to aid at any time.

b. Singing by parents. The little ten cent collection mentioned in V should be in every home and should be available at every parents' meeting. Whenever people, old or young, come together, they should find time for singing at least one of these songs. This will not only help the particular meeting but will serve to strengthen the music work in the school.

Baltimore county adults in connection with the upper grades of neighborhood schools held ten "Community Sings" on "Get Together Day" of the farmers of Baltimore county. Five hundred and more sang. The county band (volunteer) accompanied. Baltimore city is holding "Community Sings" in the concert hall of Peabody Conservatory. The municipal band includes several numbers for singing when it gives its street band concerts.

IV. SUMMARY

What it would be desirable to have the children able to do when they finish the common school.

1. Sing 100 songs, using clear, sweet tones.
2. Keep time to the songs and instrumental material played upon piano, organ, or mechanical reproducing instrument.
3. Sing the scale names for simpler portions of selected songs.
4. Recognize these same phrases from written material.
5. Extend this same work to the larger portions of all songs learned.
6. Use this technical knowledge for new songs on charts or in books.
7. Know the key and rhythm signatures.
8. Use all the above knowledge in two-part singing.

V. REFERENCE BOOKS

The following books contain all the material that the teacher will need in doing the work outlined in this course:

1. The book containing the fifty songs listed in paragraph 1 of the Work to be Done is Fifty-five Songs and Choruses for Community Singing, selected by the National Conference of Music Supervisors. It is published by C. C. Birchard & Co., Boston, Price 10c.

2. Ten source books for school rote songs. These may be purchased from the individual publishers or from general dealers such as the Clayton F. Summy Co., Chicago, and the Kahn Music Co., Milwaukee, at the prices quoted. (Postage extra.) For lists of songs see heading II 2, above.

Smith. Modern music primer. Silver. 25c.
Elliott. Mother Goose set to music. McLoughlin, N. Y. 40c.
Moffat & Kidson. Children's songs of long ago. G. Schirmer, N. Y. $1.20
Bentley. Song primer. Barnes. 30c.
Gilbert. One hundred folk songs. Birchard. 50c.
Gaynor. Songs of the child-world, vol. 1. (T)
Hofer. Popular folk games and dances. Flanagan. 75c.
Farnsworth & Sharp. Folk songs, chanteys, and singing games H. W. Gray Co., N. Y. 80c.
McLoughlin. Teachers' edition for elementary grades of the New Educational music course. Ginn. $1.25.
Parker. Progressive music series. Teacher's manual. Volume I. Silver. $1.00.

3. A list of books for technical study to be placed in the hands of children.

Congdon readers, books 1 and 2. C. H. Congdon, Chicago. 10c each.
Progressive music series, book 1. Silver. 30c.
Lyric music series, primer. Scott. 25c.
Dann. Music course, second year music. Amer. Bk. Co. 30c.

The publishers of each of these little books supply detailed directions for using their material.

The total cost of these sixteen books is less than ten dollars. This would give a music library that would be sufficient for the teacher's work for years and would insure an excellent supply of material for practically every occasion.

DRAWING

I. GENERAL SUGGESTIONS TO TEACHERS

1. Value. Drawing is a means of expression. It should be taught in every rural school, because it enables the child to appreciate the beautiful things around him; it trains him toward a useful art and it enriches all of his other school work.

2. Adaptation to local and individual needs. Every teacher can teach drawing if she will study these suggestions carefully, and make them her own by adapting them to local conditions. One way of doing so is by using the objects (dishes, flowers, etc.) found in the community for picture drawing if the ones suggested here cannot be secured. Another way of adapting this work to individual needs is by making, instead of the construction work here suggested, things that will illustrate the history, geography, or language work being taught at that time in any one school.

3. Type lessons. This course is planned to meet the needs of teacher's who have a limited equipment, by furnishing them with type lessons which may be changed from year to year to give variety to the work; yet it seems best not to vary greatly from the kinds of work here suggested, simply changing the particular flowers, objects, etc., if pupils have drawn them successfully before. For those teachers who are fortunate enough to have more equipment, there is a list of reference books which suggest much more elaborate work, however, original ideas conforming to the requirements of art, worked out by the pupils and teachers themselves, are of the greatest value; and every effort should be made to encourage originality and spontaneity in all art work, no matter how simple the problem may be.

4. The materials actually required to teach this course, as here planned, to twenty-five pupils for one year are given below:

a. Wax crayons. Boxes containing sixteen colors at ten cents each—one for each child, kept by the individual children.

b. Drawing pencils. Large soft lead pencils, one for each pupil, marked with child's name, kept standing up in a perferated shoe box or similar case, and used only for drawing or possibly for writing also in the primary classes. These pencils cost five cents each at retail stores.

c. Ink brushes. Camel's hair brushes, size No. 7—long handles—costing five cents each.

The crayons, brushes, and pencils may be bought at wholesale by the school board and sold to the children at school by the teacher if desired; but it is almost necessary to do this with the drawing paper which can be kept much better by the teacher and bought to better advantage in quantities. The packages here mentioned are assumed to contain one hundred sheets each, and the quantities are to supply a school of twenty-five children for one year. Vary these to suit particular needs.

Manila paper—size 6x9 in.—5 packages at about 5c per pkg.

Manila paper—size 9x12 in.—3 packages at about 10c per pkg.

Gray manila paper—size 9x12 in.—4 packages at about 12c per pkg.

White drawing paper—size 6x9 in.—5 packages at about 10c per pkg.

White drawing paper—size 9x12 in.—3 packages at about 20c per pkg.

5. Additional material. Below is a list of materials which are very desirable but are not absolutely necessary to the teaching of drawing as here outlined:

a. Colored construction papers in greens, browns, and grays, coming in packages of 50 sheets, size 9x12 in., and costing about 15c per package. These papers are useful for folding and cutting and for mounting drawings.

b. Brass paper fasteners for making jointed dolls, etc., cost nominal.

c. Good library paste, one gallon, costing about $1.50.

d. Paper cutter with a ten-inch knife for general school use, costing about $1.65.

e. Rulers costing about 10c per dozen.

f. Standard color chart consisting of colors and hues to show pupils—cost nominal if teacher buys colored papers and makes chart.

g. Scissors for each child costing about 10c per pair.

All of the supplies listed for drawing work can be obtained from the firms listed under "References for Teachers."

6. Begin the drawing the first week of school and encourage the pupils to use this means of expressing themselves in all their recitations and in their written seat work. Drawings are often much clearer than verbal explanations.

7. Pictures to illustrate reading lessons. After the work planned for September has been completed, let the primary children draw, from imagination, pictures to illustrate sentences or paragraphs in their reading lessons that are not illustrated in the text, as a seat work exercise.

8. Number of lessons and grading. It is intended that the teacher will spend two periods of twenty minutes each per week on drawing. The first month's work is practically uniform for all of the school.

After the drawings are made, a few moments of class criticism with suggestions by the teacher should follow.

District No. 5; Town of Richland; County of Richland; Teacher—Miss Lois James.

The proper arrangement of studies with cardboard screens back of them on temporary shelf across front of room.

After September it is intended that the older pupils will do the work outlined for intermediate grades, and the younger children will at the same time do that outlined for primary grades, the teacher directing both simultaneously.

9. Support for models. Secure two long boards that will reach from either end of teacher's desk or stove to a chair or some other object in the room, making a temporary shelf across the front of the room, about three feet in front of children's desks and about three feet above the floor. Shorter boards may be used to reach across aisles in the center of the room. Six or eight pickle bottles filled with wet sand, and some large white box covers are also needed. Glue rests to the box covers if possible so that they will stand, or else join them like book covers with a cloth hinge and use them to place behind objects to be drawn to bring them out clearly.

10. Models. Be constantly on the alert when visiting in the community for plain vase forms, jars, etc., that will make good models for drawing lessons.

11. Seat work. After a lesson has been taught to the primary pupils, before whom the teacher should always make a drawing, the children may repeat the lesson or do an original exercise based upon this for seat work.

12. Preservation and display of drawings. Make portfolios of cardboard in which pupils may keep their drawings. Encourage the children to take their best work home to show to parents. Display work in the schoolhouse, changing it frequently. Plan to have drawings mounted on gray cardboard 22x28 inches for permanent exhibition at the schoolhouse or at the county fair.

13. Drawing and other school subjects. Always use every opportunity to utilize drawing in language work to illustrate stories written by the pupils, and encourage blackboard diagrams to illustrate arithmetic problems and other school exercises.

14. Training in appreciation. In the elementary schools especially, children should be taught to have a feeling for the artistic things in life, an appreciation of the beauties and harmonies of nature, and a love for "God's-Out-of-Doors."

II. COURSE OF STUDY

First Month

Lesson 1. Grass drawn with black crayon. For this first lesson, place a fine specimen of grass in each bottle so that the grass appears as if growing. Place a bottle in front of each aisle—nearly on a level with the eyes of the seated pupils—upon the shelf made of boards across front of room. Place a cardboard screen behind each study.

Place other studies nearer pupils who cannot see the ones in the front of room. Talk about the length of the head, compared with length of stem. Note direction of slant of stem, leaves, etc. Note width of head and characteristics.

This type of study should precede all object or nature drawing. The teacher should next seat herself in front of a study and sketch, talking as she works as is illustrated in the next lesson, except that the work in Lesson 1 is all done in black crayon upon half sheets of 9x12 inch Manila paper cut the long way.

Lesson 2. Study of grass in color. Proceed as for Lesson 1 with discussion of appearance of grass. Teacher may seat herself near center of room. Let small pupils stand nearest her, others back of them, so all can see her work. If the school is too large, let older half wait until teacher finishes sketching for younger ones, listening meanwhile, carefully, to what is said. She may say, "I take my green crayon and draw lightly the long lines, being sure that I slant them just right and keep all of the parts the right length. You see I look at the grass more than at my paper. Then I work in the head with short hard strokes suggesting seeds. I put brown and blue over the green for there is no pure green in nature. Next, I notice the turn in the leaf and how it joins the stem. I put this in carefully with the side of my crayon, add blue and brown, and then sharpen up the stem. Now, my grass is done. I will give you half sheets of 9x12 inch Manila paper and you draw the grass you see best, so carefully that I can tell which study you copied. Be sure to let the stem reach the edge of the paper."

As soon as pupils have finished, let a few of them go in turn to front of room with their drawings, holding them near the study of grass which they drew. Class criticisms will aid them in their future efforts. Always praise real effort even if results are discouraging to the teacher. See cut p. 328.

Lesson 3. Simple flowers as red salvia, smart weed, or larkspur in colored crayon on 6x9 inch Manila paper. Use very simple sprays for primary pupils. Place in bottles as before. Teacher work out only a part of the flower mass for one pupil, who will try to finish it as well as the teacher began the work. Work out a leaf on another paper while class watches process. Remember that a leaf is worked in with a diagonal stroke, but is not outlined first. Just the mid-rib is drawn for the direction of growth. Teacher must half close eyes to see lights and shadows. Teach pupils to do same, putting in a touch of violet and brown or black for shadows.

Lesson 4. Study of elements in a landscape. Look out of school house door or window. See a simple landscape. Find horizon line. Note trees or hills along this line. Note color of these (blue if far away). Note that they are delicate in color. Note size of objects on the horizon line. Compare with those nearer. Note apparent

height of horizon line (level of eye). Have these facts generalized and stated.

Lesson 5. Draw sky and ground. Show pupils how to put in a flat tone of blue for sky, making it gray blue near the horizon line. Tell them to use side of crayon and make light parallel strokes. Use 6x9 inch white drawing paper after drawing a margin of one inch with black crayon. Work the long way of the paper, making the horizon line a little more than half way down the paper. Add brown and green for the ground, putting green on first.

Lesson 6. Add distant foliage, putting it in after studying appearance of real trees in the distance. Keep the foliage small and irregular. Add a near-by tree studied carefully as to mass shape and bits of sky peeping through branches. Add trunk after studying its comparative length and width.

Lesson 7. Study a different landscape containing a road, brook, or path. Note that the curves appear narrow from front to back, but wide from left to right. Remember that paths, roads, and brooks come to a point if they reach to the horizon line. Practice paths etc. on the blackboard from pleasing and natural curves. Study these in good pictures from geographies, etc.

Lesson 8. Draw the landscape studied on 6x9 inch white paper, first drawing a margin line. As soon as pupils begin to work, teacher must pass about room giving help where needed. The younger pupils may be given papers half the size of those given to the older children, or they may be given an added period in which to finish their work. Class criticism of landscapes will help to secure good results.

Second Month

Lesson 1. All pupils. Teacher talk about colors. Teach the three primary colors (red, blue, and yellow), and the three secondary colors made by mixing these (green, orange and violet). Blend each neighboring two of these colors to make the twelve hues. Show just how these are made (colored chalk on paper will do this by rubbing together with finger). Show color chart if possible.

Lesson 2

a. Primary. Give each pupil a spool with which to draw circles. Let each make a page of balloons in the six prismatic colors using 6x9 inch white paper.

b. Intermediate. Conduct a recitation upon colors. Give exercises in matching book covers etc. with standards. Decide whether covers etc. are pure color or grayed. Use wax crayons for standards if no better material is at hand.

Lesson 3

a. Primary. Give pupils autumn leaves in strong colors. Show them how to trace around leaf on 6x9 inch Manila paper, and copy colorings of leaf, putting yellow all over leaf, first, adding green or red where found. Add brown veins.

b. Intermediate. Teach lesson on color harmony. The pupils should study the color harmonies in leaves and flowers.

The complementary colors are those which mixed produce gray. These may be combined with good effect producing complementary harmony. They are red and green, blue and orange, yellow and violet.

Analogous harmony is produced by combining two neighboring colors as red and violet or orange and yellow.

Interest the pupils in noting that pure colors occur only in small quantities, most colors in nature being grayed by blending with their complements. Have this theory applied to house decorations and personal dress, showing the advantage of softened colors from an artistic standpoint.

Lesson 4

a. Primary. Pupils cut out the leaves they have made and others made as seat work, and arrange two or three on a sheet of 9x12 inch gray Manila, adding a brown crayon stem and branch. The leaves can be pasted in place with the aid of older pupils at next intermission. Pressing over night will improve the appearance of these drawings.

b. Intermediate. Recite on color harmony, and show its application in choice of dresses, ribbons, house furnishings, etc. Ask pupils to report good color combinations found outside of school.

Lesson 5

a. Primary. Begin simple autumn landscape. May be made on gray paper—night scene for Hallow-e'en if desired—add witches, bats, etc. to blue black sky—black shrubbery—orange windows in black houses.

b. Intermediate. Begin more complex landscape. October colorings. Possibly using same scene as was used in September. (If fall colorings are fading, give the lesson earlier). Use 9x12 inch white paper.

Lesson 6. All pupils finish landscapes begun in lesson 5.

Lesson 7. All pupils. Draw an apple—red and green very sharply colored. Place apples on boards—screens behind them. Study shape, stem depression and colorings. Find basic color. Block in shape and size with light yellow lines. Using yellow as a basic color, paint apple, stroking with crayon to imitate curve of apple. Add brown, green and red, as they appear. A little black may be needed. Keep high lights clean to make apple appear round. Use a simple apple for primary pupils, a more difficult one

for adults. Use 6x9 inch Manila paper. When finished, draw the table line (where back edge of board appears to cross apple), put in a slight shadow with horizontal lines below table line, and vertical lines above it.

Lesson 8

a. Primary. Draw a marigold in wax crayon—very simple side view. Use 6x9 inch white paper.

b. Intermediate. Draw two flowers placed pleasingly as if growing. Flowers may be kept in water for drawing after frosts have killed those left out of doors. Use 6x9 inch white paper.

Third Month

Lesson 1. All children. Seat pupils so that all have access to ink. Show them how to use brushes—straight up for stems; on side and full of ink for surface coverings. Study the shape of a milk weed pod, its chief characteristics, how it is joined to stem, and angle of growth. Have simple sprays of one pod for primary pupils, larger ones for intermediate children. Teacher draw one so pupils may watch process. Be sure to draw fine lines for direction of growth and mass in pods working from center to edge. Show enlarged joints on stems. Use 6x9 inch gray Manila paper for primary pupils and 9x12 inch gray Manila paper for intermediate work. Be sure that studies are arranged in bottles or else that each child has one of his own to place on his desk while he works.

Lesson 2

a. Primary. Children draw simple study of dried grass or bitter-sweet berries in colored crayon, using 6x9 inch Manila paper.

b. Intermediate. Draw dried seed pods in ink—wild carrot suggested. Show characteristic shapes as seen against white screen. Note apparent shapes of curled leaves. Use 9x12 inch white paper. Teacher to help pupils to see the mass shapes of pods first and details afterwards.

Lesson 3. Construction. All pupils. Place cards for Thanksgiving dinner. Fold white drawing paper 6x9 inch on short diameter. From newspaper cut the pattern of a pumpkin about four inches by three inches, using a pumpkin as a model. Lay this pattern on folded paper so that the fold will form a hinge at widest part of pumpkin. Cut double pumpkin, being careful to leave about one inch for hinge. Print name neatly on inside leaf of pumpkin folder.

Lesson 4. All pupils. Decorate outside of pumpkin, copying shadings and markings from a real pumpkin. Use this as a pattern and make others for family dinner if desired. Pupils may vary size if preferred. They may buy paper from teacher. These may also be used as spelling book covers.

Lesson 5

a. Primary. Begin Pilgrim poster. Gray Manila paper 9x12 inches—gray blue sky, white ground made with chalk, brown tree trunks and dark distant foliage.

b. Intermediate. Begin dull November landscape to illustrate the words "Over the river and thru the woods to grandmother's house we go". Use 9x12 inch gray Manila paper. Show bridge, road, and trees.

Lesson 6

a. Primary. Finish landscape by drawing on 6x9 inch Manila a small log cabin (front view, and also one side view). Cut these out and paste on landscape as if standing among trees. Tree trunks may be drawn over houses.

b. Intermediate. Complete landscape and print quotation in margin at bottom of paper.

Lesson 7. All pupils. Made decorated dishes. Primary pupils —bowls. Intermediate pupils—sugar bowls—pitchers—vegetable dishes, etc.

Fold white paper 6x9 inch (primary), 9x12 inch (intermediate) on diameter. Cut sides and top of dish to shape—cups and bowls cut straight across top. Cut all straight across bottom. Use rulers. Decorate with suitable borders. Study simple dishes before giving the lesson. Gilt paint may be used.

Lesson 8

a. Primary. Using ink, draw beet or turnip in silhouette on 6x9 inch gray Manila paper.

b. Intermediate. Draw small geranium in bloom in ink silhouette against screen. Use 9x12 inch Manila paper.

Fourth Month

Lesson 1. All pupils. Pose drawing—6x9 inch Manila paper. Stand a little girl or boy on desk or chair in front of each half of room, with a broom or book in hand—side view. Study the height of figure compared with the width. Measure for proportion of skirt, waist, head, etc. Teacher draw pose with short strokes of colored crayon for class. Pupils draw.

Lesson 2. All pupils. Criticisms and suggestions on above drawings. Help pupils individually to build figure into correct proportions, to correct feet positions, etc.

Lesson 3

a. Primary. Draw a girl or boy posed as if going to school.

b. Intermediate. Draw a girl posed as if sweeping. Use 6x9 inch Manila paper for both.

Lesson 4

a. Primary. Draw a sky line lightly, the long way, on white 6x9 inch paper. Above the line blend a brilliant sunset after class gives colors—blue, orange, yellow, red. Place distant foliage at base of this in dark brown. Add tree trunks, branches barely showing at top of paper.

b. Intermediate. Draw a dull gray winter landscape. Study from a window, placing it up and down on 6x9 inch white paper. Leave paper white for snow. Add a little brown rabbit in lower corner if desired.

Cut both of these landscapes down to attractive sizes, mount on red or gray construction paper, or on gray Manila paper. Add a small calendar. Use for Christmas gift.

Lesson 5

a. Primary. Using 6x9 inch pieces of colored papers, or of Manila, colored half red and half red and white, show pupils how to fold and cut little lanterns for decoration of a Christmas tree. Fold paper on long diameter, color outside. Without unfolding, fold each 9 inch edge over on to the outside like a hem, turning over 1-2 inch at each fold. Unfold hems enough so paper can be finely cut from center crease to hem crease. Color the edges first folded over black. Bring ends of paper together, add handle, and lantern is complete. Variations in color and size will add to the interest in these lanterns. For Japanese effects, make from highly colored wall paper.

b. Intermediate. Draw in ink silhouette on 9x12 inch gray Manila paper, as seen from window, a tree showing characteristic shape. Teacher to guess the kind of tree.

Lessons 6 and 7

a. Primary. Children make more lanterns for tree at home.

b. Intermediate. Design Christmas cards. Use 6x9 inch white paper. Fold on long diameter. Draw a border line in blue 1-4 inch from edge. Across top and bottom, draw another line one inch nearer center than border lines.

Within the small oblongs draw tiny Christmas landscapes—blue black sky—Brown city and yellow star in upper one. Same city and three camels in lower one. On inside leaf, print a Christmas quotation.

Lesson 8. All pupils. Make drawing of fir tree covered with snow. Draw simple landscape—hill with distant foliage. Draw tree in green, brown and black. Use chalk for snow. Cut these down. Use to illustrate story of "The Little Fir Tree" or similar selection. Study a real tree for shape. Use 6x9 inch Manila paper.

Fifth Month

Lesson 1

a. Primary. Bring new dolls to school. Choose one. Fold 6x9 inch white paper on short diameter—tear. Fold each piece on long diameter. With pencil outline the shape of one-half of doll's head, body, etc., working with the fold. Cut folded doll, open and draw face.

b. Intermediate. Let those who wish cut dolls. The others may draw in crayon a picture to illustrate these words: "They made a snow man by the gate". Use 6x9 inch white paper.

Lesson 2

a. Primary. Color hair, eyes, hands, shoes, stockings of doll.

b. Intermediate. Draw with ink in silhouette, from a geography, a camel or giraffe. Place light lines under feet. Draw small trees in distance. Use 9x12 inch Manila paper.

Lesson 3

a. Primary. Use white paper, 6x4½ inch, folded on short diameter. Lay doll on paper with fold at neck. Mark indications as to size of neck, length of dress, etc. Now fold on center line, cut sleeves, and skirt. Decorate dress like some child's or like doll's used for copy. Slip dress over doll's head.

b. Intermediate. Using ink, draw another animal in silhouette. Use 6x9 inch gray Manila paper.

Lesson 4. All pupils. Teach the use of the pencil in drawing—sharpened with dull round point, held always perpendicular to line being drawn, upright for fine lines, on the side for broad lines. Place potatoes on boards. Block in shape. Draw the line forming the potato, studying it as the line is drawn. Study eyes, position, how indicated. Place them. Draw table line. Use 6x9 inch Manila paper.

Lesson 5

a. Primary. Make another dress (undirected). Use white paper.

b. Intermediate. Place a group, as a potato and a beet, before pupils. Study group. Teach pencil measurements for getting proportions. Remember these measurements must be taken at arm's length with one eye closed. Show how to multiply these to suit the size of paper. Measure and draw nearer object. Show class how to place farther object back of first, higher up on paper, and resting outside of base of nearer object. Use 9x12 inch Manila paper.

Lesson 6

a. Primary. Make a coat for doll. Gray Manila paper cut to size.

b. Intermediate. Continue work on groups. Place them as before. Finish drawing. Test it by holding it at arm's length. Correct errors. Draw with firm lines to indicate the character of the surface. Put in table lines.

Lesson 7. All pupils. Teach the circle and its appearance in various positions. Use two circles of cardboard. Have a pupil assist, holding one just as teacher does, for the other half of room. Show circle. Get from pupils appearance at eye level, below eye level, above eye level. Using the two, show contrast one at eye level, one below at same time. Have apparent shape drawn on board. Establish the facts firmly.

Lesson 8. All pupils. Using 6x9 inch Manila paper, and pencils, intermediate class relying on pencil measurements, draw a tumbler partly filled with water. Draw center line lightly first. Next draw horizontal diameters of ellipses. Indicate their width. Draw with swinging movement. Correct. Darken lines smoothing defects and using darkest lines at fronts of ellipses.

Sixth Month

Lesson 1

a. Primary. Using gray 9x12 inch Manila paper, give each child, a piece of white blackboard crayon. Place on object shelf a toy sheep, boat or teddy bear. Using chalk and colored crayons, let pupils draw.

b. Intermediate. Draw with pencil a dinner pail. Follow directions for tumbler.

Lesson 2

a. Primary. Begin valentines by folding and cutting a heart from white 6x9 inch paper. Put red border 1-4 inch wide around it. Print "To My Valentine".

b. Intermediate. Fold and cut connected hearts for booklet valentine. Decorate with draw ribbon bow. Print inside. Use 6x9 inch white paper.

This and all lessons based upon holidays for the center of thought must be taught a few days before the holiday, exchanging places with some other lesson planned in the outline.

Lesson 3

a. Primary. Using smaller heart patterns made by themselves at other times, let pupils make and decorate a heart booklet made from 6x9 inch white paper.

b. Intermediate. Draw a group consisting of a bowl and a mug. Teach pupils how to draw the handle of the mug before

they attempt it. Use 9x12 inch Manila paper, pencil, and a little color for the decoration of the dishes.

Lesson 4. All pupils. Using suitable paper, place before class grey, white or cream dishes. Let them fold paper and cut them, opening paper for handles, then folding to finish. Discuss correctness and size, proportion, shape, and handles as they take them to front of room.

Lesson 5. All pupils. Decorate these dishes artistically, using dull colors. Mount on contrasting paper. Add table line.

Lesson 6

a. Primary. Cut the head of Lincoln, free hand, from 6x9 inch Manila paper.

b. Intermediate. Using 6x9 inch Manila paper, study a side view of Washington or Lincoln. Draw in silhouette like a bust with ink.

Lesson 7

a. Primary. Cut, free hand, a head of Washington from a picture, using 6x9 inch Manila paper.

b. Intermediate. Draw a circle enclosing the head drawn in ink in lesson 6. Cut out the circle. Mount it on gray Manila paper. Fold to make a booklet cover.

Lesson 8. All pupils. Develop idea of perspective. Use chalk box, or cracker box, and then a half closed door. Convince pupils of foreshortening by use of pencil measurements. Take pupils out to look at road if it is nearly level and straight. If not, use parallel fences. Compare retreating surfaces with the appearance of the circle. Show them that all retreating parallel lines appear to come together. Show them that vertical lines always remain exactly vertical in a drawing.

Seventh Month

Lesson 1. All pupils. Continue perspective with whole school. Show them from board how to draw a chalk box. Look out of window at a distant barn. Show how to draw this. Half close eyes. Make sure all retreating lines are drawn toward the eye level which should be placed first. Use pencil measurements for proportions.

Lesson 2

a. Primary. Draw a spring landscape showing naked earth, wind blown trees and roof of a house. Study from window. Do it all in blue crayon on white paper, 6x9 inches.

b. Intermediate. Draw a similar landscape, putting in more details. Put drawing in black or brown on white 6x9 inch paper.

Lesson 3

a. Primary. Study Dutch boy and girl. Cut dolls as before. Use 6x9 inch Manila paper.

b. Intermediate. Draw pencil study of chalk box, or of teacher's desk. Use 9x12 inch Manila paper.

Lesson 4

a. Primary. Draw faces of dolls. Color. Cut dresses. Dutch style—color blue, etc. Use 6x9 inch Manila paper.

b. Intermediate. Draw in ink silhouette a clothesline and flapping clothes. Use 9x12 inch Manila paper.

Lesson 5

a. Primary. Make more doll costumes from Dutch pictures.

b. Intermediate. Working with class, show them how to draw a book in perspective. Draw first the rectangular solid of proper proportions, then modify by extending edges of covers, rounding, binding, etc. Use 9x12 inch gray Manila paper. Accent the lines indicating nearest edges.

Lesson 6. Both classes. Draw a child posed, carrying an umbrella or basket. Primary pupils use crayon. Intermediate pupils use black and red ink if possible, using red for ribbon or basket. Use 9x12 inch Manila paper.

Lesson 7

a. Primary. Fold a piece of 9x12 inch white paper into fourths the long way. Cut off 1-4 on a crease. Fold one inch over on each end of the remaining piece. Fold again, making two creases at each end. Open. Fold on short diameter. Fringe to first creases. Place border in space between creases, fold and press for dolls' towels.

b. Intermediate. Draw a book placed in different positions, using colored crayon with pencil and 9x12 inch white paper.

Lesson 8. Both classes. Work on gray Manila paper, drawing lilac buds on branch. Be sure to study growth carefully, and see that each pupil faithfully represents the specimen he has before him. It is best to have a small branch on each desk also.

Eighth Month

Lesson 1

a. Primary. Cut out and decorate May baskets. Teacher should have a simple model prepared and patterns for all. Use white 9x12 inch drawing paper.

b. Intermediate. Pencil study of alder buds, teacher working and talking, showing pupils how to express surface characteristics with pencil. Be careful to watch the study carefully, and to do crisp work. Use white 9x12 inch paper.

Lesson 2

a. Primary. Let pupils copy free hand from the board the parts of a jointed animal. Let them trace each with a heavy line. Use gray 9x12 inch Manila paper. As soon as one of each pair of legs is copied, cut it out (outside of block line) and trace the other one from it, then corresponding limbs will be alike. Put together after school or at recess with little cloth hinges, giving some freedom, or with paper fasteners. Children will need individual help to put these together. Jointed animal patterns can be made from any good animal pattern.

b. Intermediate. Pencil study of a group consisting of a book and a dinner pail. Arrange groups just below eye level of seated pupils. Place book partly in front of pail. Estimate size of entire group. Use 9x12 inch gray Manila paper. Place paper accordingly. Use pencil measurements. Sketch book. Be sure that book appears flat. Remember how group is placed. Finish at next lesson.

Lesson 3

a. Primary. Let pupils draw a simple object in pencil, as a bowl, showing ellipse at top and bottom. A border may be placed around bowl consisting of two almost parallel curved lines. Remember the center line. Use 6x9 inch Manila paper.

b. Intermediate. Finish sketch begun in preceding lesson. Draw pail back of book. Be sure to have base outside of book. Give directions for pail and bowl at same time. Center line—diameters of ellipses, etc. Half ellipses for creases in pail, etc. Finish sketches with accented lines, making nearest parts darkest.

Lesson 4. All pupils. Study of spring landscape—the yellow greens, the soft tones, the various shades of green seen, the contrast with autumn colorings.

Lesson 5. All pupils. Draw in crayola a spring landscape from a good viewpoint in school yard, working with a stick of wood for a seat, and a large book for a desk. Study comparative sizes carefully. Represent only a few of the details seen. Let intermediate pupils attempt a more detailed sketch than primary children. Use 6x9 inch white paper.

Lesson 6. All pupils. Study the markings of a red winged blackbird, a bluebird, or a scarlet tanager. Study and sketch outline of the bird lightly in pencil. Use a bird picture for suggestive placing. Use 9x12 inch white paper.

Lesson 7. All pupils. Color the bird with crayons and place the branch, upon which he rests, so that one end reaches the edge of the paper or margin line.

Lesson 8

a. Primary. Draw from nature a spray of yellow cowslips or buttercups. Study cup shape carefully. Use 6x9 inch white paper.

b. Intermediate. Draw on half sheets of 9x12 inch white paper (long way) a blue flag lily with leaves. Use blue green for the leaves, and study the blossom carefully so as to avoid getting the sides uniform.

III. References

1. References for teachers and pupils. The sets of books listed under this heading are paper covered textbooks on construction, drawing, and design intended for pupil's use in the grades indicated by the numbers of the books. Sets or parts of sets of these books furnish suggestions and ideals toward which pupils may work.

Industrial arts textbooks; Parts I, II, III, IV. 25c each. Prang Educational Co., Chicago.
Graphic drawing books; I, II. III, IV., 15c each; and V. VI, VII, VIII, 20c each. Prang Educational Co.
Progressive drawing books; I, II, III, IV, 15c each; and V. VI, VII, VIII. 20c each. Prang Educational Co.
Applied arts drawing books; I, II, III, 15c each; and IV, V. VI, VII, VIII, 20c each. Atkinson.

2. References for teachers

Colby. Talks on drawing painting, making and decorating for primary teachers. (T)
Lederer. Drawing made easy. (T)
Newell. Construction work for schools without special equipment. Thomas Charles Co., Chicago.
Textbooks of art education; Book I, II, 25c each; III, 30 c; IV, V, VI, 45c each; VII, 55c. Prang Educational Co.
Art education for high schools. Prang Educational Co. $1.25. This book will be usable by any teacher and furnishes added power to teach drawing.

The following firms furnish complete lists of drawing supplies. Catalogue will be sent upon request.

The A. Flanagan Co., Chicago.
The Thomas Charles Co., Chicago
Scott, Foresman and Co., Chicago.
Atkinson, Mentzer and Co., Chicago.
The Prang Art Co., Chicago.

Educational magazines also furnish valuable ideas for drawing and teachers may find it desirable to substitute for the work in this outline, similar kinds of work suggested in their school journals.

It must be borne in mind that new applications of drawing and other manual arts are constantly being made and that it is necessary for the teacher to secure from time to time the latest books upon these subjects in order to keep her work abreast of the times.

MANUAL TRAINING

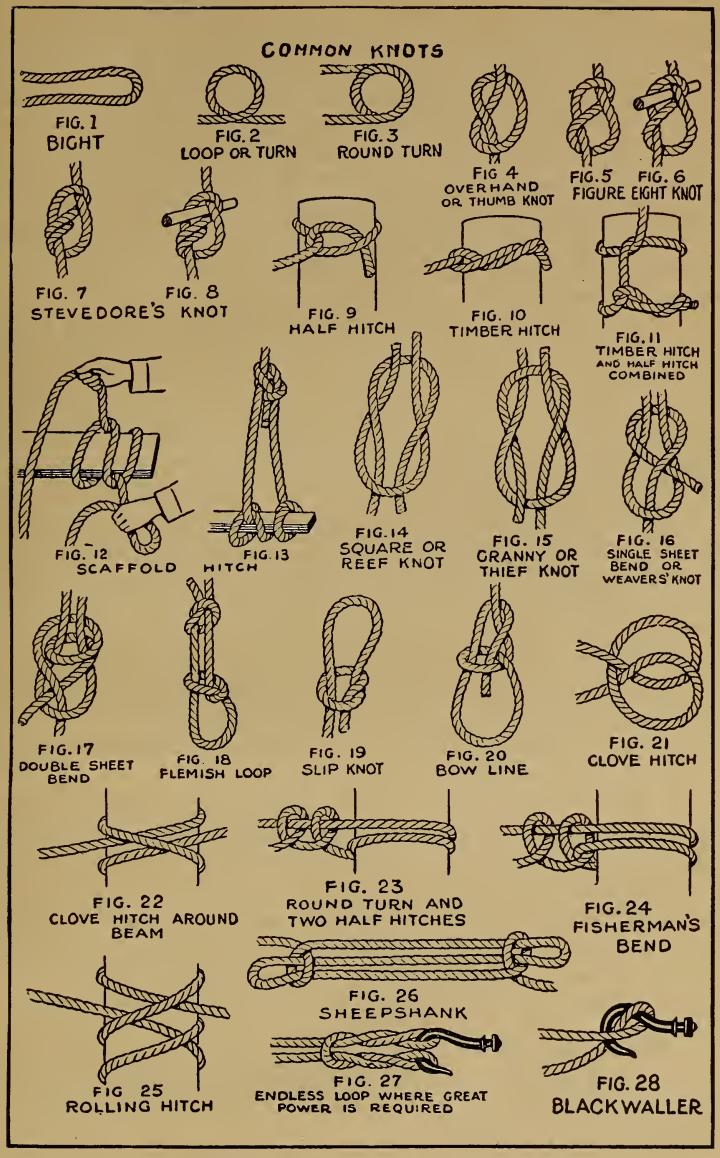
I. GENERAL SUGGESTIONS

1. Suggested equipment for manual training in rural schools

Bench and vise	$8.00
Try square 6″	.24
Brace 8″ sweep	.50
Each twist bits No. 2, 3, 4, 11c each	.33
Each ½″, ¾″, 1″ center bits, 12c, 15c, and 17c each	.44
Marking gage	.06
Nail set	.10
Screw driver 4″ blade	.25
Chisel 1″ x 5½″ long Pocket or Cabinet Chisels	.31
Chisel ½″ x 5½″ long Pocket or Cabinet Chisels	.27
Claw hammer 13 oz	.55
Back saw 12″	.67
Rip saw 20″ x 8 points	1.25
Cross cut saw 20″ x 10 points	1.25
India oil stone, fine 6″ x 1⅝″ x ¾″ in wooden box	.75
Spokeshave	.12
Smooth plane 9″ x 2″ cutter	1.60
2 ft. two fold rule	.17
Sloyd knife 2½″ blade	.20
Screw driving bit 5/16″	.10
Bench duster	.20
	$17.36

2. Material. The following material will be necessary for the construction of the problems outlined.

1 lb. 2 d. finishing nails
1 lb. 3 d. finishing nails
1 lb. 4 d. finishing nails
1 lb. 6 d. finishing nails
1 lb. 8 d. finishing nails
2 lbs. 10 d. finishing nails
1 lb. 4 d. common nails
2 lbs. 6 d. common nails
1 qr. No. 1½ garnet sandpaper
1 qr. No. 0 garnet sandpaper
1 pt. orange shellac
1 pkt. 1½″ x No. 10 flat headed Bright wood screws (for book rack)
1 pkt. 1½″ x No. 10 round headed blued wood screws (for book shelves)


COMMON KNOTS
FIG. 1 BIGHT
FIG. 2 LOOP OR TURN
FIG. 3 ROUND TURN
FIG 4 OVERHAND OR THUMB KNOT
FIG. 5 FIGURE
FIG. 6 EIGHT KNOT
FIG. 7 STEVEDORE'S KNOT
FIG. 8
FIG. 9 HALF HITCH
FIG. 10 TIMBER HITCH
FIG. 11 TIMBER HITCH AND HALF HITCH COMBINED
FIG. 12 SCAFFOLD
FIG. 13 HITCH
FIG. 14 SQUARE OR REEF KNOT
FIG. 15 GRANNY OR THIEF KNOT
FIG. 16 SINGLE SHEET BEND OR WEAVERS' KNOT
FIG. 17 DOUBLE SHEET BEND
FIG. 18 FLEMISH LOOP
FIG. 19 SLIP KNOT
FIG. 20 BOW LINE
FIG. 21 CLOVE HITCH
FIG. 22 CLOVE HITCH AROUND BEAM
FIG. 23 ROUND TURN AND TWO HALF HITCHES
FIG. 24 FISHERMAN'S BEND
FIG. 25 ROLLING HITCH
FIG. 26 SHEEPSHANK
FIG. 27 ENDLESS LOOP WHERE GREAT POWER IS REQUIRED
FIG. 28 BLACKWALLER

3. General information

a. The term 3d. and 4d. as applied to nails refers to the number of pounds that one thousand of these particular nails will weigh. For example: one thousand 3d. nails will weigh 3 lbs. 1000 4d. nails will weigh 4 pounds. 1000 6d. nails will weigh 6 pounds, and so on. The word "penny" is a corruption of the English word "pound" abbreviated to "pun" in England. The abbreviation has been made to stand for penny in this country instead of pound as originally intended.

b. Tools should be rubbed over with a little hot lard, vaseline, or oil to keep them from rusting before being placed away at the end of the school year.

c. S2S applied to lumber means that the board has been planed on both sides by a machine at the lumber mill. S4S means all four sides planed.

d. Lumber is sold by the board foot which is a board 1″ thick, 12″ wide and 12″ long. A piece 1″ thick x 6″ wide x 24″ long contains a board foot. A piece 2″ thick x 6″ wide and 24″ long contains two board feet.

e. To distinguish a ripsaw from a crosscut, grasp the saw by the handle and hold the end of the saw with the teeth on a level with the eye. If the teeth show a V groove down the center of the teeth it is a crosscut saw. If the teeth are square across it is a ripsaw.

f. The back saw is a fine cross cut saw.

g. A little soap or wax on the point of a nail or wood screw will allow it to be driven into hardwood very easily.

h. Save worn sand paper; it is always useful for sanding shellac or fine surfaces.

i. When placing away pieces of wood from period to period place the wood on edge so as to allow the air to get at both sides. This will help to pervent warping of the wood by allowing the drying process to go on from both sides.

j. To straighten a board that has become warped, wet the hollow side and place it (the hollow side) on a flat surface until dry.

k. Rubbing a little paraffin wax (or paraffin candle) on the sole or bottom of a plane keeps it from sticking to a surface.

4. Sharpening chisels or plane cutters

a. In sharpening, or as it is also called, whetting, a chisel or plane cutter it is not necessary to grind it except when the edge has become thick through whetting.

b. An important point in whetting a chisel is to see that the oil stone is perfectly clean. Place a few drops of oil on the stone; any lubricating oil will do. The purpose of the oil is to wash out from the pores of the stone the small steel particles that get worn off the chisel when sharpening.

c. Grasp the chisel with the beveled side down in the right

hand by placing the thumb of the right hand on the upper flat side of the chisel about 1½″ from the edge and with the four fingers spread around the beveled side. Place the left hand over the right hand and the chisel and grasp it in a natural manner. Place the chisel on the oil stone at an angle slightly greater than the grinding bevel and push it backward and forward lightly. One or two strokes on the stone will be sufficient to turn a light wire (rough) edge over on the flat or opposite edge. This wire edge may be felt by pressing the finger lightly upward and over the edge and at right angles to it. If the wire edge cannot be felt the rubbing on the beveled side should be continued until the wire edge is turned over. When the wire edge is turned over place the chisel with the flat side down and beveled side up. Hold the chisel by placing the thumb of the right hand with two or three fingers of the left hand on the chisel close to the cutting edge. It is most important that the chisel be held *flat* on the stone and not allowed to be lifted up or rocked. One or two rubs in this position will be sufficient to turn the edge over (or off) to the opposite face. The two operations are continued until the wire edge cannot be felt on either side.

d. The important points are, that the wire edge must be rubbed up, and that after it is rubbed up it must be removed altogether from both sides. Stropping a chisel on a piece of leather is helpful after the whetting or sharpening.

e. A spokeshave cutter is sharpened in the same manner as a chisel. To hold the cutter a saw kerf (saw cut) is made, with rip saw about 5-8″ deep in the end of a piece of wood about ½″ x 1½″ x 4″, and the cutter held in this kerf while whetting.

II. COURSE OF STUDY

1. General instructions

a. Become familiar with the correct names of the tools and always call them by their proper name.

b. Understand the drawing thoroughly before starting to make the problem.

c. Lay out the work carefully. Check each dimension over before proceeding further with the work.

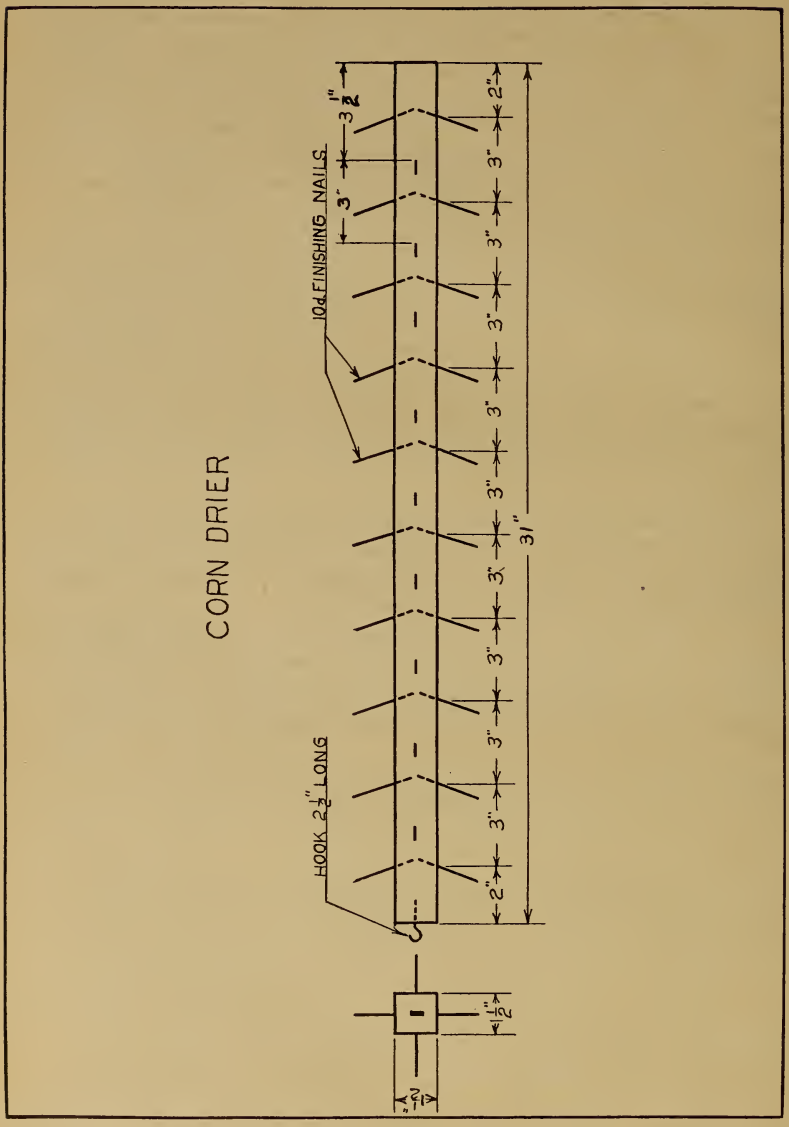
d. Remember that good work can only be accomplished with sharp tools.

e. Have a place for each tool and keep it in that place when not in use.

f. Make a free-hand sketch of the problem with all necessary dimensions, and work to free-hand sketch.

g. Plan your work before beginning to use the tools.

h. Do one thing at a time; finish one job before you start another.


CORN DRIER
104 FINISHING NAILS
HOOK 2½" LONG
3½"
3"
2"
31"
1½"
¾"

i. First learn to work *accurately.* The ability to work fast comes through practice.

j. Use a block when sandpapering a flat surface. *Never* sand across the grain of the wood.

k. Establish the following rule for planing a board:

(1) Plane working face. Mark working face 1.

(2) Plane working edge. Mark working edge 11.

(3) Plane to thickness.

(4) Plane one end. Note: By beveling a small corner on the waste stock in width the end may be planed straight across without splitting the opposite edge.

(5) Plane other end in the same manner.

(6) Plane to width.

l. Holes for screws should always be bored through the first piece of stock. If the screw is being driven into hardwood, or into soft wood, where it would be likely to split the wood, a second hole of the same diameter as the root of the thread is bored through the second piece of stock.

m. The cap of plane cutter should never be placed further than 1-16″ from the cutting edge of the plane cutter. In planing cross grained stock the cap of the plane cutter should be placed as close to the cutting edge as possible to eliminate the splitting of the shaving ahead of the cutting edge when planing.

n. Possible problems for school use:

(1) Drawer for bench

(2) Sand paper box

(3) Box for holding wood cuttings

(4) Bench hook

(5) Corn exhibits stands

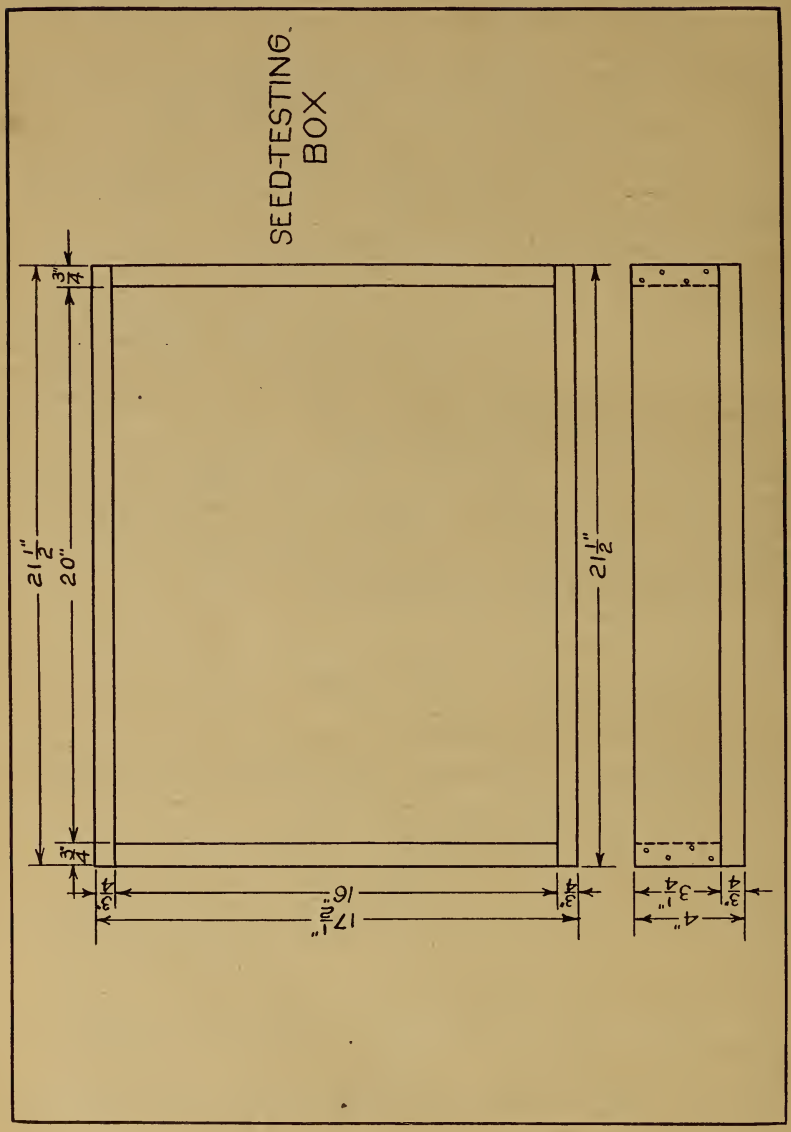
2. Instructions for corn drier. Read through all instructions for the problems before beginning to work.

a. White pine will be the most suitable material to use for this problem. If nothing better can be found secure a piece of 2″ x 4″ stock. Saw off a piece about 31½″ long and saw this up the center of the four inch face. This will give two pieces approximately 2″, or less, square, depending on the size of the 2″ x 4″ stock.

b. Select the best and easiest face to plane; plane up one face true. Test face with try square. In testing be sure the blade of the square lies perfectly flat, and does not rock on the surface. When face is planed up true, mark this first face with the mark 1 with pencil. This mark is to let you know which is the first or working face at any time.

c. Plane up second face (adjacent to face 1). Use try square with beam held firmly against face 1. Be sure these faces are perfectly square to each other. Mark this face 11.

d. Set marking gage to desired width (see drawing) and gage


SEED-TESTING BOX
21½"
20"
¾"
¾"
21½"
¾"
¾"
16"
17½"
¾"
1"
4"
¾"

width from face 1. Gage on both sides or edges. It is well at this time while the marking gage is set to gage same width from face 11. Note: When gaging hold marking gage firmly against face and press *lightly* on the point or spur of the gage, and push gage from the body.

e. Plane third face to gage lines. Test with try square from square face.

f. Plane fourth face to gage lines. Test with try square from square face. The piece of stock should now be square on all four sides.

g. About ¼" from one end of the stock square (draw) a line across faces 1 and 11. Use a sharp pencil. From this line, and on face 1 mark off centers (short lines) for nails (see drawing), and also the total length of corn drier. Always mark off as many dimensions as possible without moving the rule. Why?

h. On face 11 lay off centers for nails. Note that the centers of these nails come midway between the centers of the nails on face 1.

i. Square center lines for nails to opposite face with try square. In squaring across it is only necessary to tick the lines on the center and edge of the stock instead of drawing them all the way across the face. Square the lines for the total length across face 1 and 11. The total length and centers for nails lengthwise will now be located.

j. Set marking gage to half the width of stock and locate center for nails by ticking lightly through pencil lines.

k. Saw off to the line the waste stock on each end with back saw.

l. Locate center for hook by drawing diagonal lines from corner to corner.

m. Bore hole in end for hook. This hole should not be any larger than the root of the thread.

n. Screw in the hook to the end of the thread.

o. Make a guide for driving in nails at proper angle. This may be made by taking a small piece of stock about ¾" x 1" x 4" long and sawing one end to desired angle. Place nail against end when driving into the stock.

p. Drive nails about 1¼" into stock. Erase any pencil marks that remain. The corn drier is now finished.

3. Seed testing box. Material: soft pine, cyprus, or packing box material.

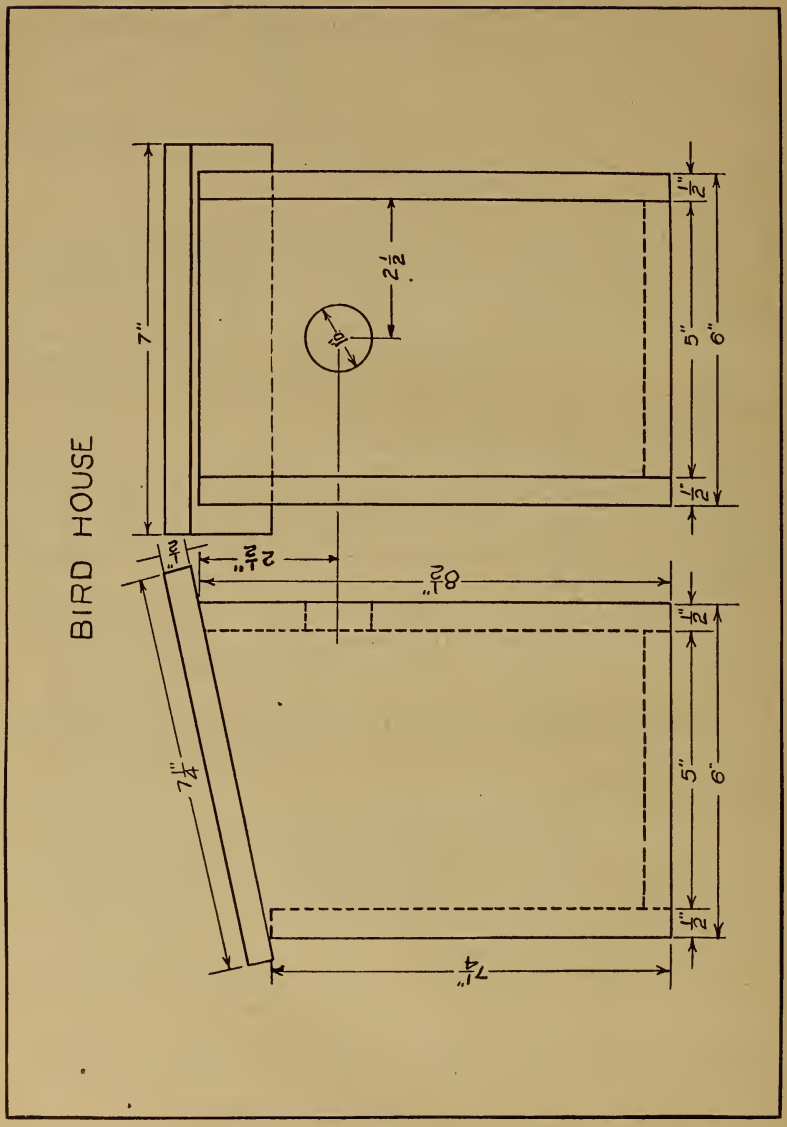
a. Make a sketch of the problem from drawing.

b. Make out bill of material:

(1) 2 ends ¾"x3¼"x16"

(2) 2 sides ¾"x3¼"x21½"

(3) 1 bottom ¾"x17½"x21½" (may be made up from any width of stock). Find suitable material.


BIRD HOUSE
7"
2½"
1½"
5"
6"
1½"
¼"
2¼"
8½"
1½"
5"
6"
1½"
7¼"
7¼"

c. Cut material for sides and ends about ¾″ to 1″ longer and about ¼″ wider than drawing calls for.

Note: Do not cut material for bottom until frame is nailed together.

d. Plane up one working face on sides and ends. Test with try square and mark 1.

e. Plane up one working edge on sides and ends. Mark 11.

f. Gage thickness of stock (see drawing) on both edges and on all four pieces. Plane to thickness.

g. Gage width (see drawing) on sides and ends and plane to width.

h. Square a line across working face and working edge about ¼ of an inch from one end of pieces.

i. With crosscut saw, and bearing lightly, saw off the waste stock to line just drawn; use vise for holding stock when sawing. This will now leave all four pieces squared up on one end.

j. Lay off length of sides and the length of the ends from the square ends that have just been sawed.

k. Saw sides and ends to correct length.

l. Nail sides to ends. Use 8d. finishing nails. Hold end pieces in vise when nailing the first side to end.

m. Test frame for squareness by measuring across diagonally from corner to corner. Be sure frame is square before nailing on bottom.

n. Place frame on bench and fit material together for bottom on frame. Mark off length of pieces for bottom from frame and saw to length. Note: Keep about 1-16″ from line to allow for planing after the bottom has been nailed in place.

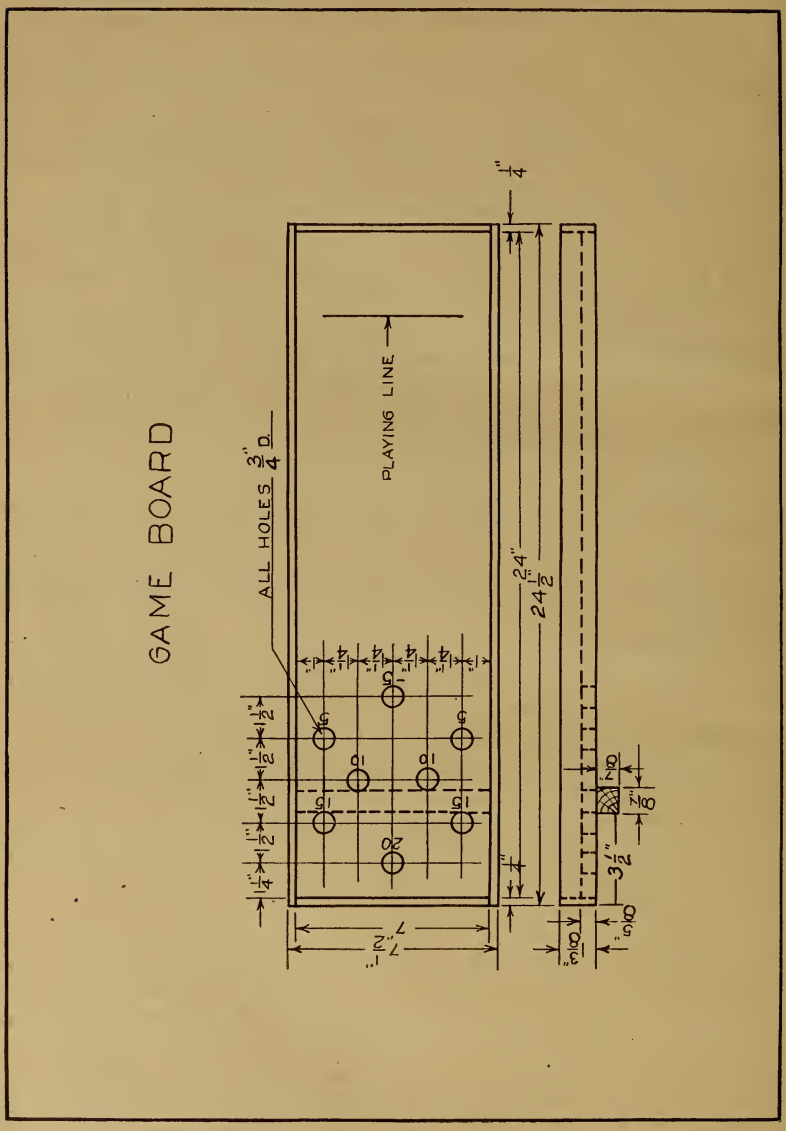
o. Nail bottom on frame, using 6d. common nails.

p. Set nails with nail set about 1-16″ deep.

q. Place box in vise and plane bottom flush (even) with sides. Note: In planing the end wood plane from both sides so that the end wood on the corner will not split off.

r. The box is now finished.

4. Bird house for wrens. Bird houses may be made larger for other birds. Why the wren? The house wren is one of the most valuable of birds to have about a garden. Ninety-eight per cent of its food consists of animal material, mostly insects, which are injurious to garden plants. In hunting for this insect food the little wren is most industrious, flitting noiselessly about with the greatest quickness and agility among the garden plants looking for plant lice, small caterpillars, beetles and even grasshoppers. It is especially valuable in clearing peas of plant lice. A still greater attraction in having this dainty bird about is its wonderfully rich and beautiful song in which its endurance and enthusiasm are untiring. The wren takes kindly to almost any sort of a box or even


GAME BOARD
ALL HOLES 3/4 D.
PLAYING LINE
24"
24 1/2"
1/4"
7"
7 1/2"
3 1/2"
1/8"
1/4"
1 1/2"
1 1/2"
1 1/2"
1 1/4"
1/4"
1/4"
1/4"
1/4"
1/4"
5
10
15
20

a tin can as a place for its nest and seems to love especially to be near some human habitation.

a. Make a sketch of the problem.

b. Make out a bill of material

2 sides w ½ x w x l
1 front w ½ x w x l
1 back w ½ x w x l
1 top w ½ x w x l
1 bottom w ½ x w x l

Note: In getting out the material for the two sides it is possible to cut the two sides from one piece of stock and that one saw-cut at the proper angle will separate the two pieces and make them exactly alike. How is this done?

c. Cut material about ¾" longer and ¼" wider than the drawing calls for.

d. Plane up working face and edge of each piece. Mark working faces and edges.

e. Plane up stock to thickness.

f. Plane one end square to working face on all pieces. Test with try square. Make small bevel on corner for waste stock. This will prevent the corner splitting when planing.

g. Lay out length from square end. Saw and plane all pieces, except bottom, to correct length. By leaving the bottom until sides, front, and back have been nailed, an accurate measurement for the bottom will be secured.

h. Plane to width.

i. Plane the two sides together in vise (sides may also be nailed together with small nails), and plane top to correct angle. Plane in the direction of the high side of the angle.

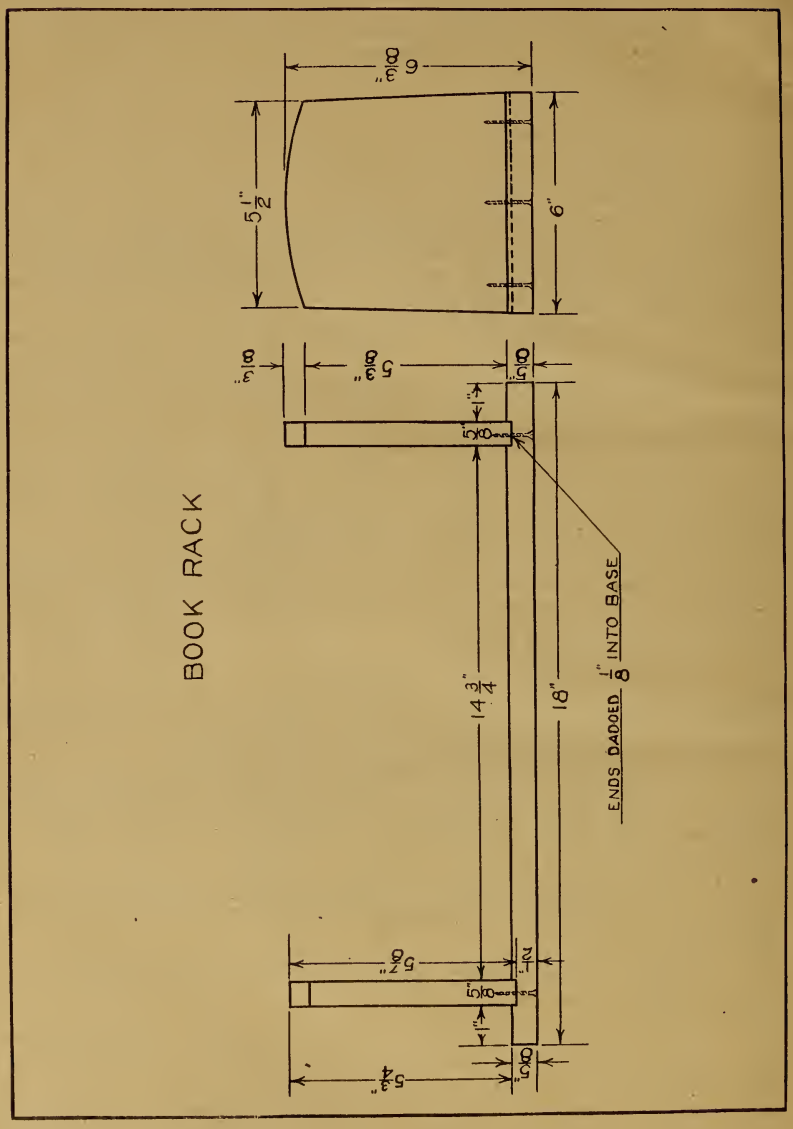
j. Locate center of hole in front part and bore hole. Note: When point of bit projects through the other side stop boring, turn stock over and complete boring of hole from other side. Why is this necessary?

k. Nail the ends, front and back pieces together with 4d. finishing nails. Remember the front and back is located between the two sides.

l. Plane the top corner of the front that projects above the angle of side at the top.

m. Mark off, saw, and nail in bottom with 4d. finishing nails. Or, it is a good plan to have the bottom turn on a pivot secured by driving a nail through the center of the front part *into the bottom*, and one through the center of the back part *into the bottom*. One nail is now driven a little distance through the side into the bottom. This will hold it stationary. When it is necessary to clean out the bird house, draw the nail from the side, and bottom will turn round on pivot. To do this it will be necessary to bevel each side of the bottom to allow it to turn.

n. Locate top in proper position and nail in place with 4d. common nails.


BOOK RACK
6 3/8"
5 1/2"
6"
1/8"
5 3/8"
1/8"
1"
5/8"
14 3/4"
18"
ENDS DADOED 1/8" INTO BASE
5 7/8"
5/8"
1"
5/8"
5 3/4"

o. Paint with dark red, green, or brown paint.

p. Keep paint brushes in water when not in use.

5. Game Board. How to play the game. Secure a marble sufficiently large that it will not pass through the holes in the board. Roll the marble into the holes from the playing line. The value of the holes may be increased or decreased. —5 means five points subtracted from the number of points made. The game may be 250 or any other suitable number.

Make a sketch of the problem with lumber bill. Material: soft pine (free from knots), poplar, gumwood, or basswood will be suitable.

a. Secure material about ¾″ longer and ¼″ wider. Strips of wood laths may be used for the strips that are fastened to the edge of board. These strips may be made 1/16″ thicker than dimension on drawing.

b. Select the best face and plane up board according to rule given on page 347.

c. When board is properly planed lay out center lines for holes with a sharp pencil. Note: It will be found easier to square the center lines across the board first and then tick the center lengthwise on these lines.

d. With brace and ¾″ center bit bore holes in board. Remember to rebore from other side when point of bit projects through. Why is this necessary?

e. Erase all pencil marks; select the best side of the board for the top side, and sand carefully with sandpaper wrapped around a block of wood. Mark numbers at holes neatly with pencil.

f. Plane up strips for edge. Do not plane ends of strips. Why not?

g. Saw one end of each short strip square.

h. Place end strips in position on board with square end flush with edge of board. Mark off from board and saw to length.

i. Nail on end strips with 3d. finishing nails.

j. Saw one end of each side strip square.

k. Place the side strips in position and mark off length. Saw to length.

l. Nail on side strips.

m. If necessary plane around outside of strips.

n. Round off inside and outside corners of strips with sandpaper.

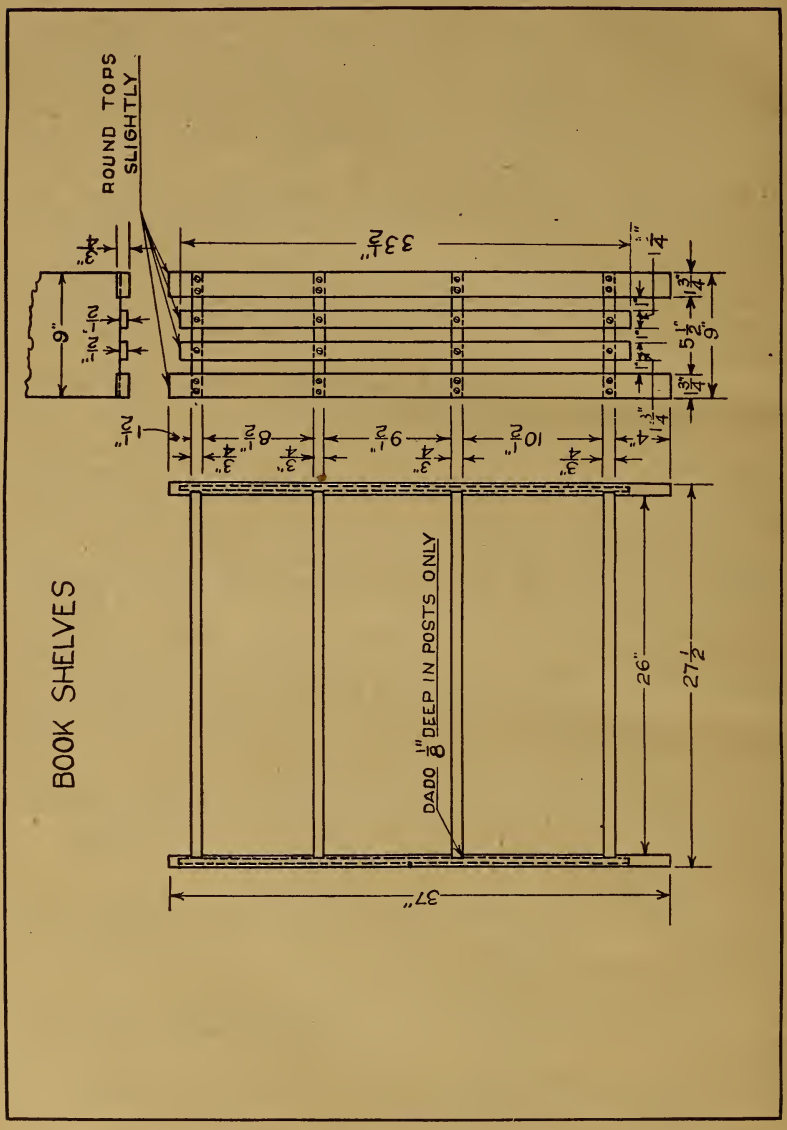
o. Plane up cross strip for bottom. Do not plane ends.

p. Saw off cross strip to length.

q. Nail cross strip in place to bottom with 3d. finishing nails.

r. Round corners on cross strip. Use plane and then sandpaper.

s. Finish: Give the entire game board one coat of orange shellac. Allow shellac twenty minutes to dry, sand down lightly with fine worn sandpaper. Dust board and apply a second coat of shel-


BOOK SHELVES
ROUND TOPS SLIGHTLY
33½"
9"
DADO ⅜" DEEP IN POSTS ONLY
26"
27½
37"

lac. Allow shellac thirty minutes to dry and then sand down lightly. Shellac should be applied quickly and in direction of the grain of the wood.

t. Go over pencil figures at holes and playing line with ink. This should complete the game board.

6. Book rack. Make sketch of problem and bill of material.

a. Oak, gumwood, chestnut or ash, will be suitable material for this problem.

b. In cutting out the stock it is a good plan to keep the ends of the book rack in one piece until planed. By doing this the two ends may be planed as one piece.

Note: One end of the end pieces only needs to be planed. Why? The grain of the end pieces should run vertically.

c. Plane stock to dimensions according to rule for planing.

d. Layout ends. A good plan for laying out the ends is to take a sheet of note paper, fold it over double and use the fold or crease as the center line of pattern for the end. Keep folded and lay out the full length and half the width of the design. The taper on the sides is drawn in and the round of the top sketched in. The pattern is then cut out. After opening the pattern it is placed flush with the squared end of stock and the design transferred to the end piece.

e. Saw out the rounded ends with cross cut saw and finish them before planing taper on sides. In rounding the tops of the ends place both ends together in vise. Use smooth plane on the round end to rough down close to line; finish with spokeshave. In using plane and spokeshave, work from the side to the center or high point. Test for squareness with try square.

f. Sand ends; use a block when sanding. Care should be taken in sanding not to round surfaces that are intended to be perfectly flat.

g. Layout dado (⅛" deep) on base. Note: In doing this measure the dimension (1") from each end and equare line across the base with sloyd knife. Place the two ends in proper position with the end just covering the line drawn across the base. Mark off thickness of end with knife, and square line across. Note: End must fit tightly into dado.

h. Gage depth of dado (⅛") between lines on edges. Be careful not to gage beyond lines of dado.

i. Saw to depth. Be sure to saw in inside of lines.

j. Make another saw cut in center of waste stock of dado; this will enable all the waste stock to be removed more readily.

k. Use ½" chisel to take out waste stock in dado; first work down to the lines on both edges and then work across the center. Test trueness of dado with try square from edge to edge.

l. Bore three holes for screws (¾" x No. 10) through each dadoed part of the base. Examine screws before boring holes.

m. Countersink for head of screws. Use chisel with beveled side down for countersinking.

n. Place end in vise and place base on end in proper position. Mark position of center hole only, on end. Remove base and bore center hole. This hole is to be the size of the screw at the root of the thread.

o. Sand base.

p. Replace base and drive in center screw. If end fits properly bore the remaining holes through base into the end, and drive in screws. The screws should be driven in slightly under the flush of base.

q. One small piece of felt placed at each corner and center of the base will prevent the book rack scratching a surface. Use shellac or cold glue to fasten felt to base.

r. The finish for book rack may be two coats of shellac (natural finish); or it may be stained and given one coat of shellac and waxed; or it may be stained and this followed by two coats of shellac.

7. Book shelves. Make a sketch of the problem. Make out lumber bill.

a. Oak, chestnut, ash or gumwood will be suitable material for this problem. In assembling use roundheaded blued screws 1½" x No. 10.

b. Secure and cut material to approximate dimensions.

c. Plane up stock. Note: The ends of posts and slats may be planed if placed in vise edge to edge, with the corner supported by a piece of scrap stock to prevent corner from splitting off when planing. How is this done?

d. Have shelves planed and sanded before laying out dado.

e. Lay out dado by placing posts edge to edge in vise with face up and squaring lines for dado across all four posts at the same time. The dado should be a tight fit for the shelves. The narrow slats are not dadoed.

f. Gage for depth of dado on both edges. Do not gage beyond lines for dado. Gage on both edges.

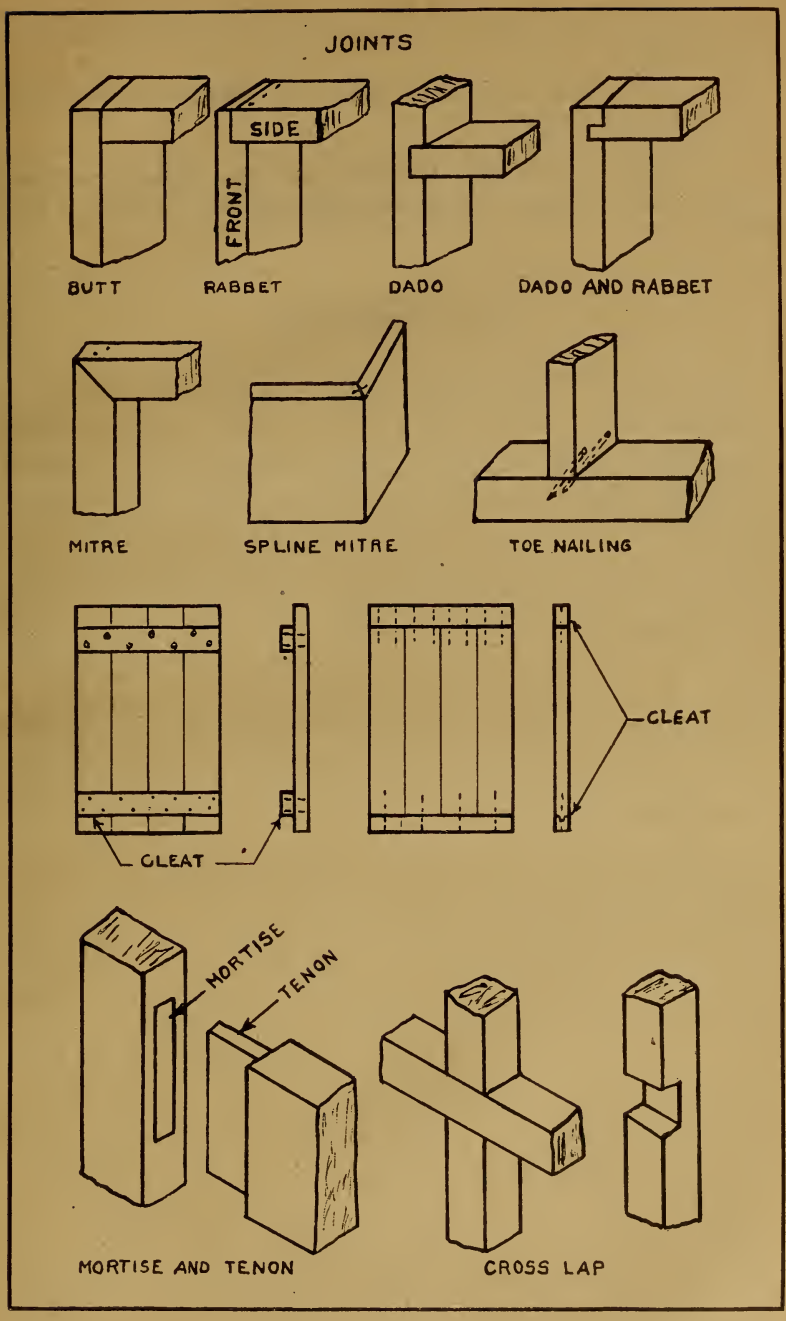
g. Saw to depth of dado with back saw. Be sure to saw on waste stock.

h. Chisel out waste stock as in book rack. Chisel from both edges.

i. Locate and bore holes for round headed screws. Holes for round headed screws are *never* countersunk. When is countersinking done?

j. Round tops of posts and slats slightly with coarse, and then with fine sandpaper.

k. Sand posts and slats.


JOINTS
SIDE
FRONT
BUTT
RABBET
DADO
DADO AND RABBET
MITRE
SPLINE MITRE
TOE NAILING
CLEAT
CLEAT
MORTISE
TENON
MORTISE AND TENON
CROSS LAP

l. Assemble by screwing posts to shelves. The slots in the roundheaded screws should be turned in the direction of the grain of the wood.

m. Test if the problem is square by measuring diagonally across extreme corners.

n. Screw slats in place.

o. Finish: Stain with any prepared stain. When dry follow with a coat of shellac. Sand and apply one or two coats of prepared wax.

III. REFERENCES

Allen & Cotton. Manual training for common schools. (T)
Blackburn. Problems in farm woodwork. (T
Burton. Shop projects based on community problems. Vocational Supply Co., Muncie, Ind.
Cobleigh. Handy farm devices and how to make them. (T)
Roehl. Manual training in rural schools. Bruce Publishing Co., Milwaukee.

DOMESTIC SCIENCE

I. GENERAL SUGGESTIONS

While the program of the country-school teacher is crowded with subjects, and it would seem that little time could be taken for additional work, the necessity for presenting some industrial work in all schools is so obvious and the desire for this work so universal, that if the progressive teacher will find time for adding cooking and sewing to the curriculum, she will be amply repaid for her efforts by the increased and improved attendance, awakening of interest in slow pupils, and by the development of community spirit through these lines of work.

1. Object of the work. The reasons for recommending that cooking and sewing be taught in the rural schools are: (a) to retain pupils in school by giving them some practical instruction and industrial training; (b) To create, foster, and develop in the girls of the state an interest in home work, home life, and home making.

2. School fairs and contests. Interest in industrial work may be aroused in a community through school fairs and contests. Fairs may be held in the fall in connection with the Harvest Festival, Corn Show, or the County Fair. At most county fairs prizes are offered for work done by pupils in the rural schools. This list of prizes could be increased to include work in cooking and sewing done by the pupils as part of school work, or as work done as the result of school instruction.

Winter fairs, held at school or at the town hall, add to the interest in this work and make the members of the community familiar with the work being done at school. Prizes may be offered for the best loaf of bread, the best rolls, cake, pie, the smoothest custard or the most appetizing salad, and rules for judging or scoring bread, cake, etc., may be sent to parents so that they will know what qualities are considered desirable, in the products. Prizes should also be offered for the best patching, stocking and linen darning, buttonholes, child's dress, corset cover, shirt waist, and cotton dress. The fair may be held in conjunction with a spelling

contest, some school entertainment, or a Christmas candy sale, and through friendly rivalry interest in industrial work is developed.

Work of this kind is of inestimable value because of the community spirit developed, the interest taken in the work, and the opportunity for pupils to compare their work and find out how to improve it.

3 Girls' clubs. Girls' clubs may be formed for the purpose of studying domestic science. These clubs may meet at the school, at the homes of the members, but preferably at the home of some large hearted woman who is interested in the work and who will help to make the club a social center for the girls. The girls may secure any books desired from the free circulating libraries, also government bulletins, and study house planning, house decoration and furnishing, division of the family income, general housekeeping, and textiles.

A good plan would be for the girls to do all the general housework at home, for a day at a time, following a definite plan agreed upon, and report on their success. Studies may be made of the homes of the members of the club to learn about real house planning, furnishing, labor saving devices, etc., and to learn how to solve some of the every day problems of managing a home.

Mothers would be interested in a club of this kind, and much might be learned from them because of their experience in spending the family income judiciously, and in general housekeeping.

Girls' canning clubs are meeting with success in many places. The girls raise the fruit, tomatoes, and other vegetables, and come together and carry on a small canning industry. A Farmers' Bulletin has recently been issued on this subject, explaining how this work may be done successfully.

4. Library lessons. Teach the lesson under the heading "Domestic Science" given on page 102 of the department publication Lessons on the Use of the School Library.

II. OUTLINE OF WORK

Cooking

1. School lunches. School lunches are an admirable way to teach the nutritive value of foods, planning balanced meals, table manners, courtesy, sharing work and responsibility, in addition to furnishing one warm dish for the otherwise cold and sometimes unattractive lunch. This warm dish may be served one day in the week or oftener if the teacher desires. The various ingredients needed should be brought from home by different pupils in turn, and the food should be prepared by the older pupils and be ready

to serve as soon as school is dismissed for the noon hour. Pupils should wash their hands and then return to their desks and spread paper napkins as tablecloth, and place knife, fork, and plate in proper place. The food should be served and passed by the pupils and the work of clearing and dishwashing should be done by all pupils in turn. The serving of one warm dish at noon in the rural school makes the noon hour a pleasant social time where much can be taught of common social usages, that will be of use to the pupils later in life.

The lunch of the average boy and girl is not often planned to supply the right food needed for the growing body. It is usually put together in a hurried manner and is often unattractive and unappetizing. If the teacher would invite all the mothers to school on a certain afternoon and talk over the planning of nutritious lunches, tell what she proposes to have the girls prepare for the warm dish for several weeks ahead, give the mothers some idea of what constitutes a balanced meal, hearty cooperation would be secured. All of this work is of greater value if it is made a community work. The Farmers' Bulletin on Lunches for School Children will be found helpful to the teacher.

a. Equipment needed for serving school lunch. The work is to be limited to the preparation of a hot article of food for the noon lunch.

The equipment given below is such as can be used on the ordinary wood stoves found in country schools. Each child should furnish his individual equipment consisting of plate, cup, teaspoon, knife, and fork.

Equipment (10 to 15 pupils.)

Teakettle	$ .85
Coffeepot	.50
6. qt. granite kettle with cover	.50
2 qt. granite pan to fit in kettle	.25
Cover for 2 qt. pan	.05
Frying pan	.20
Fine wire strainer	.10
Small dish pan	.25
1 tin measuring cup	.05
2 tablespoons	.10
2 teaspoons	.12
2 steel knives (sharp)	.10
2 steel forks	.10
1 paring knife	.05
2 plates	.10
2 cups	.10
2 saucers	.10
1 3 qt. earthen bowl	.10
1 vegetable brush	.05
Dish towels	.25
Total	$3.92

b. The following foods may be quickly and easily prepared, at a moderate cost, for noon lunch:

Green corn soup
Tomato soup
Pea soup
Potato soup
Corn chowder
Baked apples
Baked potatoes
Creamed potatoes
Creamed carrots
Scalloped potatoes
Codfish balls
Bacon and eggs
Bacon and corn
Shepherd's pie
Apple sauce
Dried fruits, as prunes, apricots, etc.
Macaroni and cheese
Brown Betty pudding
Biscuit
Apple dumplings
Gingerbread
Cookies
Custard
Doughnuts and cocoa or cereal coffee
Rice and cheese
Mush and milk
Potato or cabbage salad
Any vegetable in season, served with white sauce.

2. Cooking lessons for school work. Cooking lessons given in school will require some equipment and a small expenditure of money for supplies. A cupboard made with shelves enough to hold equipment and supplies, should be placed near the stove and table. This cupboard should have either doors or a curtain in front. A common kitchen table, containing a drawer to hold utensils in constant use will be found necessary. Some schools have a cooking cabinet. An oil stove with two burners and an oven, makes the most satisfactory stove.

As there is but little surplus room in the country school, equipment enough for four pupils to work at a time, two pupils working together, will be deemed sufficient. The other pupils may observe, criticise and furnish information obtained from books and Farmers' Bulletins concerning the nutritive value of the food prepared, and its place in the diet.

Pupils should study the structure of foods, to learn how heat affects them. They should find the composition of common foods and learn the uses of the various foods to the body. They should learn to plan nutritious, economical, and appetizing meals, and be able to prepare and serve them in a limited period of time. As not much of the preparation of meals can be undertaken at school, the teacher should give instruction and advice in this work and have the pupils prepare the meals at home. When the report on this home work is brought to the teacher, properly signed by the mother, school credit should be given for the work.

3. School credit for home work. As little can be accomplished if this work is pursued for but 60 minutes weekly, and as it does not seem advisable to recommend that more time be taken from other lines of work pupils should be required to practice at home what is learned at school, to try new receipts given by the teacher, to report on the success or failure of each effort, to bring in a

weekly report of all housework done at home, and credit should be given for this work.

This home work not only makes perfect by practice the things taught at school, but it interests the mother in the work done at school, and the teacher in the work done at home. This brings about a very desirable spirit for cooperation and harmony between parent and teacher and keeps the teacher in touch with some of the interests and problems in the pupils' lives.

Because the work is to be carried out in the home, under the supervision of the mother, the teacher is compelled to make her work practical and suited to the home needs of the pupils. On the other hand the mother will be kept in touch with modern methods of doing work. A greater sympathy and understanding between mother and teacher results, and through this method, school and home work in unison.

School credit should also be given for the development of habits of personal hygiene, as care of the teeth, bathing, sleeping with window open, care of the pupil's own room. Reports of work done should be written out by the pupils, signed by the mothers, and kept on file at school; and some system of credit should be followed.

4. Equipment for cooking lessons. The cost of the following equipment, exclusive of the stove, is about $10. The stove may be purchased for from $2.50 to $8.00.

Two burner oil stove	
Oven to fit stove	
Drip pan to fit oven	$0.20
Teakettle	.50
Pail for water	.20
Garbage pail	.50
Two dish pans	.50
Two paring knives	.20
Two steel knives	.20
Two steel forks	.20
Four teaspoons	.20
Two tablespoons	.10
One Dover egg beater	.15
One spoon egg beater	.10
Two one quart bowls	.20
One sieve to fit bowl	$0.05
Two measuring cups	.10
Two one pint tin basins	.10
Two one quart double boilers	.70
Two one quart stew pans	.50
Two rolling pins	.10
Two biscuit cutters	.10
Two small frying pans	.20
Two bread pans	.20
One vegetable brush	.05
One utility pan	.10
One pie plate	.10
One tray	.10
One two quart stew pan	.30

One bread knife	.25
One butcher knife	.25
4 white plates, small	.40
4 cups and saucers	.40
4 white plates, large	.40
One grater	.05
2 muffin pans	.10
1 large mixing bowl, 2 quart	.25
One soap dish	.05
One lemon squeezer	.10
One match box	.05
One broiler	.05
One cork screw	.05
One can opener	.05
One creamer and sugar	.25
One water pitcher	.15
Total	$10.00

A board for cutting bread, meat, cake, etc., and a molding board may be made by the boys. Dish towels and dish cloths made from flour sacks, and holders, may be made in the sewing class.

5. Suggested lessons. The following lessons are suggested for work in the school. It is not intended that this outline shall be followed exactly. A teacher may plan her own course, or substitute any lessons which she may care to teach. It should be kept in mind, however, that not many candy lessons are necessary or desirable and that there should be no *"fancy dishes"* prepared and that all lessons should be moderate in cost. The aim is to teach the fundamentals in cooking, and if these fundamentals are well taught, the pupils will be able to advance to more elaborate cooking in their home work. It is of great importance that they learn to plan nutritious meals, and to serve them in an attractive manner.

a. A general lesson on care of the stove, how to regulate the oven, how to keep the burners clean; how to work neatly, quickly, and accurately; how to measure correctly; should precede the first cooking lesson.

b. Preparation of vegetables for cooking:—potatoes, carrots, celery, asparagus, or any vegetables in season, served with White Sauce, also canning and jelly making.

c. Rice, served with cream and sugar, date sauce, or prepared with grated cheese and baked.

d. Plain corn starch mold, or chocolate corn starch mold, served with cream and sugar.

e. Composition and nutritive value of eggs. Season for packing, best time of the year to serve them. Poached, boiled, scrambled, omelet, fried or stuffed.

f. Soda and sour milk as a leavening agent.
Griddle cakes, Johnny cake, or ginger bread.

g. Baking powder as a leavening agent.
Biscuit, apple dumpling, or short cake.

h. Class exercise in planning an economical, nutritious, and appetizing breakfast. Serving.

i. Cooking the breakfast, previously planned, and serving it to four pupils.
j. Cream soups, as potato, tomato, corn, or pea.
k. Yeast as a leavening agent.
l. Bread and rolls.
m. Cookies.
n. Plain cake and frosting.
o. Sponge cake.
p. Apple or lemon pie.
q. Meat loaf with or without tomato sauce.
r. Meat stew with dumplings.
s. Simmered steak or shepherd's pie.
t. Cooked salad dressing, cabbage, potato, banana, or combination salad.
u. Desserts; as custard, rice, tapioca, or bread pudding.
v. Planning and serving a supper or lunch.

Sewing

1. Object of teaching sewing

To work neatly and accurately
To teach hand sewing
To teach how to keep clothing in repair
To teach economy in buying and cutting
To direct and guide taste in selecting clothing
To teach pupils to make their own clothes
To teach use and care of sewing machine, when possible
Not to teach fancy work

2. Equipment needed for pupils

A thimble
A pair of scissors
A tape line
A package of Number 8 needles
A spool of number 60 white cotton thread

3. Additional equipment needed at school

Several papers of pins
Thread, black and white, assorted numbers
A large pair of shears
An emery bag
A piece of wax
Needles, assorted sizes
Tapestry needles
Spools of colored silk or colored cotton
Canvas for the first work
A sewing machine, if possible

4. Suggestions for teachers

Have pupils sit erect while at work, with feet squarely on the floor and base of spine against the back of the seat or desk.

Do not let pupils rest their elbows on the desks because the work should be held high enough so that the erect position can be maintained and there is no strain on the eyes.

Always insist that pupils use their thimbles while sewing.

Always insist that all imperfect work shall be ripped out and done over until good work results.

Teach pupils how to pull threads so as to secure a straight edge.

5. Outline for work

Teach the various stitches in common use, using coarse tapestry needle and canvas. The model may be used for a needle book or a pin cushion. Apply stitches by making a work bag. This bag may be of gingham or linen, and the pupil may place her initial in cross-stitch design on the bag.

Seams and hems. Apply on small sewing, work, or fancy apron.

Darning. Apply on stocking and on flannel.

Hemming of towels and table linen and sewing on tape. Pupils may hem dish towels for school or home, and may bring napkins from home to hem.

Patching, apply on clothing.

Other articles which may be made are, bean bag, iron holder, cheese cloth duster, broom cover, pillow case, dresser scarf, table runner or child's dress.

Make simple garments as drawers, corset cover, night dress, or other underwear. Use bought patterns, some of which may be obtained free if for school use.

Make waist or dress.

Have pupils learn to know the different kinds of cotton materials and make a simple study of the production, manufacture, and cost of materials.

Teach methods of shrinking and how to set color.

Teach care of clothing, careful selection, and economy of buying.

Reference, Blair's Sewing Tablets or Goodwin's Sewing Lessons.

III. REFERENCES

1. List of Farmers' Bulletins which may be obtained free from Secretary of Agriculture, Washington, D. C.

34 Meats: composition and cooking
85 Fish as food
93 Sugar as food
121 Beans, peas, and other legumes as food
128 Eggs and their uses as food
131 Household tests for detection of oleomargarine and renovated butter
142 Nutrition and nutritive value of food
166 Cheese making on the farm
175 Home manufacture and use of unfermented grape juice
182 Poultry as food
203 Canned fruits, preserves and jellies
241 Butter making on the farm
249 Cereal breakfast foods
256 Preparation of vegetables for the table
293 Use of fruit as food
295 Potatoes and other root crops as food
298 Food value of corn and corn products
332 Nuts and their uses as food
348 Bacteria in milk

359 Canning Vegetables in the home
363 The use of milk as food
375 Care of food in the home
389 Bread and bread making
391 Economical use of meat in the home
413 The care of milk and its use in the home
270 Modern conveniences for the farm home
377 Harmfulness of headache mixtures
521 Canning tomatoes at home and in club work
Comforts and conveniences in farmers' homes

2. Excellent receipts for lessons will be found in the following books.

Wisconsin farmers' institute cook book
Wisconsin farmers' institute reports.

DIPLOMA EXAMINATIONS

1. Importance

a. When a pupil receives a common school diploma stating that he has completed the course of study in the school of his home district, he is entitled to have his high school or his State graded school (9th and 10th grade) tuition paid by the town in which he lives, in case he attends high school in some other district. To grant a diploma before a pupil is able to do high school work creditably is an injustice to the taxpayers of the town.

b. If a pupil is granted a diploma before he is sufficiently mature and able to do good high school work, the local school as well as the teacher acquires a bad standing educationally. On the other hand, well prepared pupils are a credit to the country school and the country teacher.

c. The diploma examination is a strong factor in determining not only the standard for graduation but the character of the work to be done in the schools especially the last year or two of the course. Teachers will emphasize in the various classes the work which is called for in the examination. A superintendent indicates, therefore, to a great extent, the phases of the work that shall receive the greatest attention.

2. Methods of conducting diploma examinations. There are two general methods used in the state.

a. Examinations are held in the local schools and conducted by the teachers. Questions are furnished by the county superintendent. Each teacher examines her own pupils, usually marks the papers, and then forwards the manuscript to the county superintendent's office.

b. Examinations are held at certain central points in the county, and are conducted by a member of an examining board appointed by the county superintendent. Questions are prepared by the county superintendent and the manuscripts are forwarded to his office after the examination. The papers are graded in the superintendent's office either by himself or by teachers appointed by him. Sometimes the examiner marks the papers before they are forwarded to the superintendent.

There are several variations of these two general plans.

As a rule the first method is very unsatisfactory to all who are anxious to have the diploma mean something. The teacher who has a

high standard suffers because of the laxity of the examination in a neighboring district. Parents have complained, as have also high-school teachers. Because of the loose way in which the examination is frequently conducted, children have little respect for it.

The central plan has several advantages and should be introduced in some form in all counties. The system is a more fair one and gives the pupils as well as the parents an assurance that the diplomas have been earned. Meeting in a central place and taking the examination is a training in itself. The objection offered by some teachers and parents that pupils get excited in strange surroundings has no validity. Strong teachers are not afraid to have their pupils tested, but weak ones frequently like to be around to give the children help. The only valid objection to the central system is the cost in case the children have to travel a considerable distance.

3. Factors that should be considered in granting diplomas

a. The regular oral work of the pupils in the various classes.

b. The regular written work of the pupils in school.

c. The general intelligence of the pupils; their resourcefulness in accomplishing school work.

d. The general reading done by the pupils; the ability to use the library, especially the reference books.

e. The final examination paper.

4. Suggestions to county superintendents

a. Get the names of the prospective graduates as early in the year as possible. Then as you and the supervising teachers visit the schools, take special note of these pupils with reference to their oral recitation work, their written work, their ability to find and use information, their general intelligence, etc. Make records of these pupils and consult the records after the examination papers have been marked. Become acquainted with the pupils personally and give them suggestions regarding their work. It is also well to speak to the schools regarding work that you deem especially important.

b. About the time of the examination request each teacher to send you a statement regarding the work of each of her applicants. Such statement might include also the pupil's attitude toward his work, his habits, his attendance, and any other items which might be of value to the superintendent. Class standings, however, are likely to be of little value, as the standards of different teachers vary.

c. Use discretion in appointing the members of the examining board. Not only should an examiner be capable but he should be tactful and sympathetic, and able to manage children.

d. If possible, have the examiner give each pupil a short oral test. This is especially desirable in reading.

e. Do not ask questions calling merely for isolated and scrappy information. Let the information called for be important. Let the questions test thought power and not simply memory.

f. The questions you ask indicate to the teacher and the pupils

what you consider important. Let your questions be a guide to them in determining the essentials in the various subjects. Let them see that you are guided by the Manual in the preparation of the questions.

g. It is well in a country school diploma examination to give the children an opportunity to omit one or two questions out of a set. Make the directions specific.

h. Pupils may be given an opportunity to write on a subject when they have finished it. In this way they may write on some subjects one year and on others the next year.

i. Calculate carefully the time that should be allowed to answer each set of questions.

j. Neatness of manuscripts and arrangement of work should be considered in the grading of papers.

k. Be specific in your requirements in case you intend to give credit for work the pupils bring to the examination, such as school district maps, etc.

l. As a rule the pupils should not take the diploma examination until they are twelve years of age and until they have finished some of the work definitely outlined in the course of study, such as physiology and hygiene, geography, etc.

m. In some counties two kinds of diplomas are granted, thus giving the pupils in many cases an incentive to return to their own school for another year and work for a greater mastery of the common branches. The higher grade diploma is a recognition of stronger work done.

5. Suggestions to teachers

a. Give the pupils in the upper and intermediate classes practice in written tests. Grade the papers carefully and show the children what errors and omissions they made.

b. Introduce the time element into your tests. Do not allow a longer time than necessary.

c. Give frequent reviews. Train pupils to make outlines when studying their lessons and to use these outlines in their recitations and review exercises.

d. Give the pupils a preliminary examination a short time before the regular diploma examination. Do not let pupils write at the county superintendent's examination if they are not ready for it. When pupils write several times on a subject before passing, they are likely to become discouraged.

e. Demand neatness and orderly arrangement in the examination work.

f. Do good and thorough work with the primary and intermediate pupils. This is the most effective way to prepare for good examination papers in the diploma examination. The success of your work does not depend entirely upon the number of graduates you have.

g. Discover the causes for the weaknesses and difficulties that

your pupils have. Then remove the difficulties by efficient teaching—not merely by cramming.

h. Be ready to show the pupils' work, good and poor, to the county superintendent and the supervising teacher. Ask questions concerning difficulties you have encountered.

i. Talk with the parents about the children's work. Encourage thoroughness and mastery of the fundamentals. Discourage unwise and hasty promotion.

j. Train the pupils in making sets of test questions in the various subjects.

k. Do not be too anxious to teach higher subjects not included in the common school course. It is better to give the pupils a mastery of the fundamental branches.

l. Send to the county superintendent early in the year a list of the pupils you think may finish. Send the county superintendent a statement concerning each pupil at the time of the diploma examination.

6. Pupils who have finished the course of study. Teachers should do all they can to have the children of the district get as much from the school work as possible. It frequently happens that a pupil who has secured a diploma cannot attend a high school and can come back to the country school for another year. Special classes cannot, as a rule, be formed for such pupils, but it may be possible to give them special work.

a. They may be given supplementary work in the subjects they are taking with the upper grade pupils. Extra topics may be given them to look up and report upon. In this way they may be doing some work that is much superior to that of the other members of the class.

b. They may do considerable extra reading from the books in the library.

c. They may be given special topics in connection with, or outside of the regular subjects. They may outline these topics and present them in general exercises or in some of the other school work.

d. They may be excused from the recitation whenever the other members of the class have the simpler exercises. At such times they may be assigned special work.

e. Considerable supplementary work can be found in nature study, agriculture, history, and civics which may be taken up and worked out by advanced pupils.

f. In some instances where the pupils are unusually strong in the common branches, where the school is of small size, and where the teacher is capable of handling an extra subject or two, arrangements may be made between the school board and the teacher to teach such advanced subjects as may be deemed advisable. In such cases the advice of the county superintendent should be obtained.

A STANDARD ONE-TEACHER COUNTRY SCHOOL

Inquiries frequently come to the State Superintendent's office with reference to school buildings and equipment. Many districts have the ability and also the desire to get the best for the children. As a guide to such districts the following suggestions are given:

I. SCHOOL GROUNDS

1. Area at least one acre on well-drained land, made smooth or level.

2. Fenced with a close mesh wire fence, using steel posts not over 10 ft. apart.

3. Platted into lawn and playground for large and small children.

4. Corners and sides properly planted with shrubbery and trees. Some neat flower beds well cared for.

5. Located far from railroads, factories or other noisy places and far from places where intoxicants are manufactured or sold.

6. Should contain a good well or a spring.

7. Should contain well built outbuildings, properly screened from the view of the road and schoolhouse. These buildings should be ventilated by a tube extending from the vault out through the roof, lighted, and the door and windows screened from flies.

8. Should contain some of the following conveniences for play and playground apparatus:

a. A low, strong swing
b. A giant stride
c. Horizontal bars
d. A modern teeter
e. A coaster slide
f. A volley ball (A basket ball may be used for the purpose)
g. A sand bin about 8x12 feet, placed in some shady corner of the grounds.
h. A smooth, straight running track
i. Baseball grounds
k. Croquet set

Note. For suggestions as to making or securing playground apparatus, see Plays and Games for Schools, sent to all schools in 1911 by the State Superintendent.

9. Flag pole from 25 to 35 feet high, from which there flies when school is in session (weather permitting) an American flag, of good bunting and in good condition, about 4 by 8 feet or 5 by 10 feet. The flag is to be taken down when school closes in the evening and hoisted before school opens in the morning. A color guard should be appointed for this purpose. See Memorial Day Annual of 1916, p. 29.

10. Good walks should be provided from the road to the schoolhouse and from the schoolhouse to the outbuildings. Gravel should be placed wherever necessary.

II. SCHOOL BUILDING

1. Position and general arrangement

a. If possible, it should face the south.

b. The main room should be 23x32 and 12 feet high.

c. In addition to the main room the building should contain a teacher's room, two cloak rooms, and an alcove off the main room for the library. If an alcove for the library is not provided there should be a "library corner" as suggested in "Lessons in the Use of the School Library," p. 10.

d. There should be a basement under the whole building at least 9 ft. high divided into wood and furnace rooms, and domestic science and manual training apartments where children may play on stormy days and where they may at times do handwork under the direction of the teacher.

e. Doors and windows screened.

2. Lighting

a. Glass area should be at least one-fifth of the floor space. One window at least should be placed so that sunlight may be admitted.

b. The light should come from the left and from the upper part of the rear of the room. No windows should be placed within eight feet of the front of the room. The window sills of those in the rear of the room should be on a level with the center of the windows on the side of room or about 6½ ft. from the floor. All windows should be so constructed that they can readily be opened for ventilation purposes.

c. The windows should be placed close together, not with large spaces between them. They should extend to within six or eight inches of the ceiling. The window shades should be so adjusted that any part of the window can be covered.

d. Light tan canvas adjustable shades should be used.

3. Heating and ventilation

a. A furnace that is sufficiently large to heat the room easily should be provided. It should be properly placed by someone who is familiar with the installation of furnaces in schoolhouses. Unless a thoroughly competent, experienced, and responsible person installs the furnace, a good jacketed stove with proper facilities for ventilation is likely to prove more satisfactory. A fresh air intake large enough to supply the room with fresh air properly heated in accordance with the rules of the State Board of Health should be provided. Provision should also be made to keep the air properly supplied with moisture. The temperature of the room should be 68 degrees and the humidity not less than 40 per cent.

b. The chimney should be so constructed that it can handle easily both the smoke and the foul air. The two should escape through two seperate flues and be independent of each other. The partition wall should be thin so that the foul air may be heated.

c. The windows should be made so that the upper half can be lowered. If storm windows are used provision should be made so that the room can readily be flushed with fresh air at any time.

4. Materials

a. Hollow tile, brick, cement blocks or wood. The building should be properly painted in order to preserve it and to add to its appearance.

b. Maple floors, oak finish, plastered walls and ceiling. In case brick or cement blocks are used the plaster should not be put on blocks or brick directly.

5. Cleaning. The floors should be scrubbed and the building otherwise thoroughly cleaned before the opening of school in the fall and during the Christmas and spring vacations. If the floor is not oiled, it should be mopped once a month or oftener. For oiling use a solution of two parts boiled linseed oil and one part turpentine.

III. EQUIPMENT

1. Bookcase. See page 9, "Lessons on the Use of the School Library."
2. At least one-half dozen pamphlet boxes and several dozen folders. See Lessons on the Use of the School Library, p. 76–9.
3. A library catalog case.
4. A well-selected library of at least 150 volumes, kept in good repair, necessary rebinding done, and dilapidated books discarded. An up-to-date encyclopedia of six or more volumes and costing about twenty dollars should be included. For further particulars, see "Lessons on the Use of the School Library," p. 8–12.

5. Single steel adjustable desks of suitable sizes properly arranged and adjusted to the sizes of the pupils. The seats should be adjustable and separate from the desks. Cheap furniture of this kind is likely to prove unsatisfactory.
6. At least two or three good chairs
7. Bartlett dictionary-holder
8. A small school bell
9. Wall clock
10. Globe—pendent preferred
11. Also one six-inch globe
12. A set of maps each in a separate single spring roller case
13. A set of blackboard outline maps in separate single spring roller cases
14. 1 spring roller blackboard about 4x6 ft.
15. At least three sets of supplementary readers for each of the three lower grades
16. Set of textbooks for the teacher's use
17. ½ doz. Secondary School dictionaries or ones equally good
18. 1 up-to-date unabridged dictionary
19. Seat work material for primary children
20. A printing outfit (set of wooden types)
21. A bulletin board of soft wood, cork matting or green burlap
22. A Stewart pencil sharpener or one equally good
23. Sanitary drinking fountain, kept sanitary
24. Pens and pen holders bought in quantities
25. A Tip-top duplicator or one equally good
26. A paper cutter.
27. Ink furnished by the keg; it is much cheaper
28. Wire mats sunk in floor of vestibule so that they are on a level with the remainder of the floor
29. An automatic foot scraper.
30. Sweeping compound, kept in a damp place
31. A few dustless dust cloths
32. Floor and wall brushes
33. Snow shovel
34. Waste baskets
35. Paper towels
36. Liquid soap and container
37. Sink or wash basins
38. A looking-glass for the teacher, one for the girls and one for the boys
39. Slate blackboard—at least one hundred square feet—with chalk trough at base of board, running entire length of board. A width of four feet is recommended, especially in the front of the room.
40. Crayons of good quality and enough felt erasers for the largest class
41. A box of colored crayon
42. Toilet paper

43. Ash pail and shovel
44. Chantillon Scales for weighing milk
45. Covered Babcock milk tester
46. Kerosene stove or alcohol burner
47. A few dishes—See Domestic Science, p. 363.
48. A few carpenter's tools—See Manual training, p. 342
49. Some of the common measures, such as pint cup, peck measure, etc.
50. Pointers
51. Thermometer, tested for accuracy
52. Hygrometer
53. Supply closet
54. Suitable desk and chair for the teacher
55. Necessary apparatus for nature study and agriculture

IV. DECORATION

1. Building. For helpful suggestions, see School Beautiful, published by the State Superintendent.

a. Tinting of walls. Use light tints, especially for the ceiling. A light cream for the ceiling and a light tan for the walls make a good combination.

b. Pictures. A few good pictures properly hung, p. 91

c. Statuary. A few well chosen busts and friezes

d. House plants to be used during the spring and fall

e. Window boxes for seed germination, plant and flower study

f. Best work of pupils and classes properly hung; but taken down after a week or two

g. Program, calendar, and blackboard decorations done artistically by the teacher

n. Aquarium. Goldfish, pollywogs, etc.

i. Rearrange decorations at least once each term

2. Grounds. For specific suggestions, see current and back numbers of the Wisconsin Arbor Day Manual; also The School Beautiful.

The school grounds should be beautified by planting such bulbs, shrubbery, vines, etc. as will blossom before the spring term or school closes or will grow with little care during the summer months.

a. The planting of the bulbs of the tulip, peony, narcissus, and such other plants in the fall as will blossom in the spring before school closes.

b. Hardy shrubbery such as the Thunberg and other barberries, spirea or bridal wreath, etc.

c. The hardier varieties of the common rose.

d. The Virginia creeper, commonly known as five-leaf ivy, the morning glory, and the wild cucumber may be used for screening outbuildings and also for decorative purposes.

Note. The five-leaf ivy is not poisonous, but the three-leaf is and should not be handled.

V. THE TEACHER AND THE TEACHING. PUPILS.

The above includes only the physical make-up of a standard country school. More important still are the teacher, the teaching, the management, and the attitude of the public. The reasonable use of the schoolhouse as a social center is also an important element. These subjects are treated in the present Manual, the pamphlet How to Have a Good School, and other department publications distributed to the schools of the State.

The best number of pupils for a one-teacher country school is from twenty to thirty. Fewer than fifteen or more than forty is likely to preclude the best results.

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